

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: P332804-935

Luminaire Tested: **S124DIW-S795D1560U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332804-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D1560U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7595.2 lumens
Efficiency: N/A
Efficacy: 111.5 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

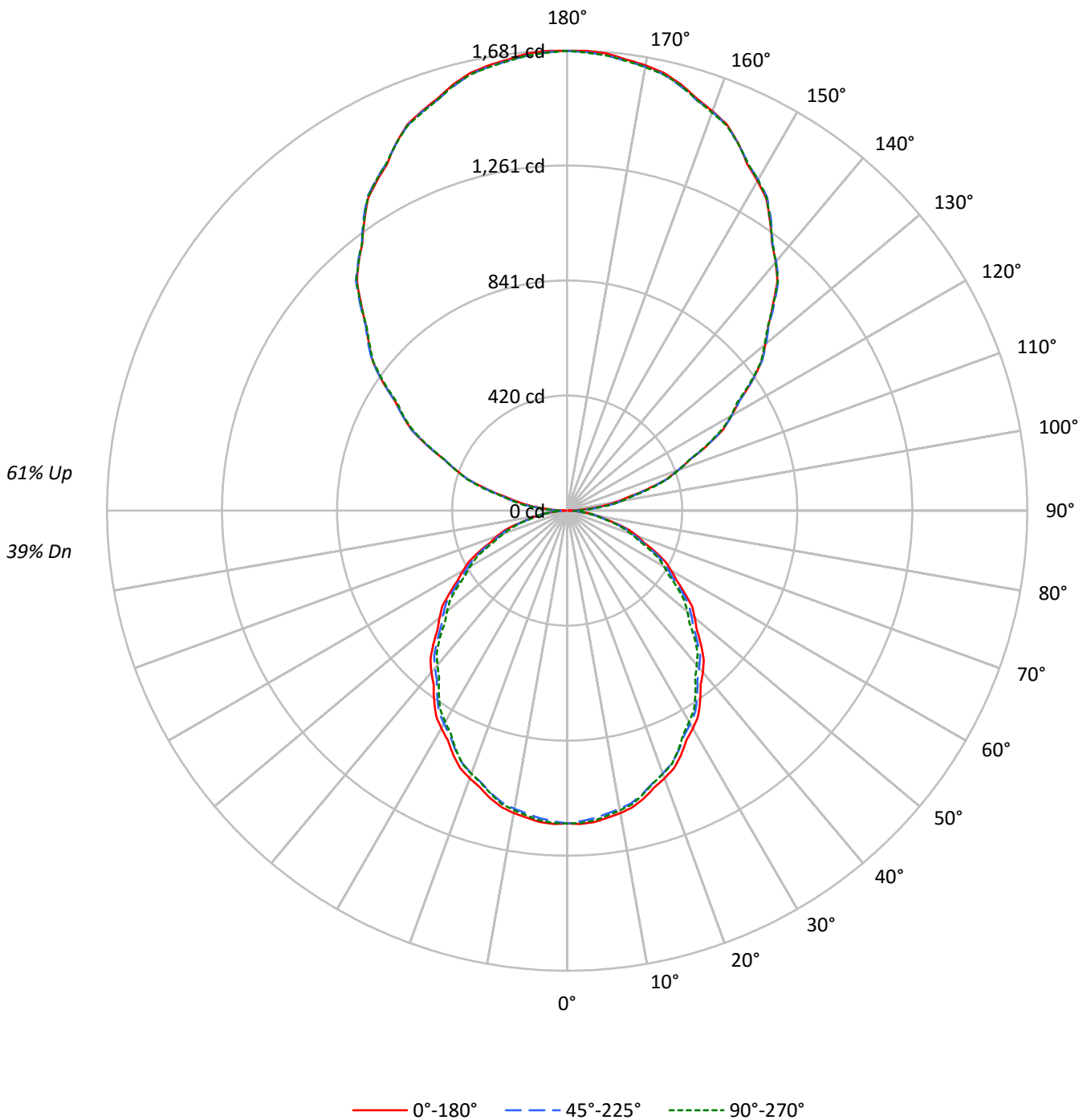
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	86	83	79	77	67	65	63	53	52	50	40	39	38	32
2	87	79	73	68	78	72	67	63	59	55	52	47	44	42	35	34	32	27
3	79	70	63	57	71	64	57	52	52	48	44	41	38	36	31	29	28	23
4	72	62	54	48	65	56	50	44	46	41	37	37	33	30	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	26	25	23	21	17
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	23	20	18	15
7	56	44	36	31	51	41	34	29	34	28	25	27	23	20	21	18	16	13
8	52	40	33	27	47	37	30	25	31	25	22	25	21	18	19	16	14	12
9	49	37	29	24	44	34	27	23	28	23	19	23	19	16	18	15	13	11
10	45	33	26	22	41	31	24	20	26	21	17	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9227	9227	9227
5°	9255	9143	9210
10°	9197	9069	9114
15°	9086	8940	8964
20°	8937	8781	8789
25°	8769	8598	8573
30°	8563	8383	8307
35°	8348	8159	8051
40°	8126	7904	7759
45°	7895	7654	7507
50°	7637	7430	7200
55°	7361	7142	6909
60°	7083	6817	6610
65°	6770	6508	6245
70°	6420	6097	5858
75°	5883	5599	5459
80°	5235	5026	4895
85°	4576	4409	4326



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.6	1.4
10°-20°	303.3	4.0
20°-30°	446.4	5.9
30°-40°	518.9	6.8
40°-50°	518.9	6.8
50°-60°	453.9	6.0
60°-70°	337.1	4.4
70°-80°	191.5	2.5
80°-90°	60.3	0.8
90°-100°	110.7	1.5
100°-110°	328.0	4.3
110°-120°	556.7	7.3
120°-130°	734.0	9.7
130°-140°	824.4	10.9
140°-150°	810.1	10.7
150°-160°	681.3	9.0
160°-170°	453.3	6.0
170°-180°	158.7	2.1
0°-30°	857.3	11.3
0°-40°	1376.2	18.1
0°-60°	2349.1	30.9
0°-90°	2938.0	38.7
90°-120°	995.4	13.1
90°-150°	3363.9	44.3
90°-180°	4657.0	61.3
0°-180°	7595.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1142	1138	1128	1138	1136	108
15°	1087	1083	1070	1075	1072	306
25°	984	978	965	966	962	453
35°	847	840	828	822	817	529
45°	692	685	670	661	658	533
55°	523	520	507	497	491	468
65°	354	350	341	332	327	351
75°	189	184	180	176	175	200
85°	49	49	48	48	47	54
90°	4	18	29	36	39	8
95°	78	89	99	102	102	87
105°	302	304	309	313	317	321
115°	566	566	563	562	561	558
125°	824	824	823	820	818	734
135°	1063	1071	1071	1068	1064	822
145°	1292	1297	1298	1297	1293	808
155°	1480	1480	1479	1483	1479	681
165°	1611	1607	1605	1612	1607	454
175°	1676	1670	1668	1676	1668	159
180°	1679	1679	1679	1679	1679	



TEST NUMBER: P332804-935

CATALOG NUMBER: S124DIW-S795D1560U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1145.9	1145.4	1144.9	1144.4	1143.9	1142.8	1141.0	1139.2	1137.4	1135.7	1137.2
5°	1142.0	1141.3	1140.4	1139.6	1138.8	1137.2	1135.0	1132.7	1130.5	1128.3	1130.5
7.5°	1131.4	1130.6	1129.8	1128.9	1128.2	1126.5	1124.0	1121.5	1119.0	1116.5	1118.4
10°	1121.9	1121.1	1120.2	1119.5	1118.6	1116.9	1114.2	1111.6	1109.0	1106.3	1107.9
12.5°	1109.4	1108.6	1107.8	1107.0	1106.2	1104.3	1101.6	1098.7	1096.0	1093.1	1094.9
15°	1087.1	1086.2	1085.5	1084.6	1083.8	1081.9	1078.8	1075.8	1072.7	1069.7	1070.9
17.5°	1060.1	1059.1	1058.1	1057.1	1056.1	1054.1	1051.3	1048.4	1045.4	1042.6	1043.4
20°	1040.3	1039.3	1038.4	1037.3	1036.3	1034.2	1031.2	1028.1	1025.1	1022.1	1022.7
22.5°	1019.2	1017.8	1016.4	1015.1	1013.7	1011.6	1008.5	1005.5	1002.4	999.4	1000.5
25°	984.5	983.1	981.6	980.2	978.8	976.6	973.8	970.9	968.1	965.3	965.4
27.5°	944.9	943.5	942.0	940.6	939.1	937.0	934.4	931.8	929.1	926.4	925.9
30°	918.6	917.0	915.3	913.7	912.1	909.9	907.2	904.7	902.0	899.3	898.5
32.5°	890.7	889.2	887.8	886.3	884.8	882.7	879.9	877.1	874.3	871.5	870.6
35°	847.1	845.7	844.3	842.8	841.5	839.3	836.5	833.6	830.8	827.9	826.5
37.5°	801.2	799.9	798.6	797.3	795.9	793.8	790.7	787.6	784.6	781.5	780.0
40°	771.1	769.5	767.8	766.2	764.6	762.2	759.2	756.1	753.1	750.0	748.0
42.5°	738.9	737.9	736.9	736.0	734.9	732.8	729.4	726.1	722.6	719.3	717.0
45°	691.5	690.0	688.6	687.2	685.8	683.4	680.2	676.9	673.6	670.4	668.1
47.5°	641.8	640.8	639.9	638.9	637.9	635.9	632.9	629.9	626.9	623.9	621.3
50°	608.1	607.3	606.5	605.6	604.9	603.0	600.2	597.4	594.4	591.6	588.8
52.5°	575.1	574.2	573.2	572.2	571.2	569.2	566.2	563.2	560.2	557.2	554.7
55°	523.0	522.3	521.7	521.1	520.5	518.8	515.9	513.1	510.2	507.4	504.9
57.5°	473.1	472.4	471.7	471.1	470.4	468.6	465.8	463.0	460.2	457.4	455.0
60°	438.7	437.6	436.6	435.7	434.6	432.7	430.2	427.5	424.8	422.2	420.3
62.5°	405.0	404.2	403.3	402.4	401.6	399.8	396.9	394.1	391.3	388.5	386.8
65°	354.4	353.4	352.4	351.4	350.3	348.8	346.8	344.7	342.7	340.7	338.6
67.5°	303.5	302.6	301.6	300.7	299.8	298.3	296.4	294.4	292.5	290.5	288.5
70°	272.0	270.6	269.1	267.7	266.3	264.8	263.1	261.5	259.8	258.3	256.7
72.5°	238.3	236.9	235.5	234.0	232.6	231.3	230.0	228.6	227.3	226.0	224.7
75°	188.6	187.6	186.7	185.6	184.6	183.6	182.5	181.5	180.6	179.5	178.7
77.5°	141.2	140.8	140.3	139.9	139.4	138.8	137.8	137.0	136.0	135.2	134.9
80°	112.6	112.0	111.4	110.8	110.2	109.7	109.3	108.9	108.5	108.1	107.6
82.5°	84.8	84.6	84.2	83.9	83.7	83.5	83.4	83.3	83.3	83.2	82.9
85°	49.4	49.4	49.4	49.4	49.4	49.2	48.8	48.5	48.0	47.6	47.6
87.5°	19.8	20.3	20.8	21.3	21.7	22.1	22.4	22.7	23.0	23.3	23.7
90°	3.9	7.1	10.2	13.4	16.6	19.4	21.6	23.9	26.3	28.6	30.3
92.5°	27.8	31.4	35.0	38.7	42.4	44.9	46.6	48.2	49.8	51.4	52.4
95°	77.9	80.5	83.1	85.7	88.3	90.6	92.6	94.6	96.7	98.7	99.5
97.5°	136.0	138.1	140.2	142.3	144.4	146.6	149.0	151.3	153.7	156.0	157.0
100°	181.8	182.9	184.1	185.2	186.4	188.2	190.9	193.5	196.0	198.6	199.2
102.5°	229.5	230.0	230.5	230.9	231.4	232.8	235.1	237.5	239.9	242.3	243.1
105°	302.5	302.8	303.1	303.3	303.7	304.4	305.5	306.7	307.8	309.0	309.9
107.5°	379.1	379.4	379.8	380.1	380.5	380.7	380.9	381.1	381.3	381.4	382.2
110°	431.0	431.6	432.1	432.7	433.3	433.5	433.2	432.9	432.6	432.3	431.7



TEST NUMBER: P332804-935

CATALOG NUMBER: S124DIW-S795D1560U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	485.0	485.2	485.3	485.3	485.5	485.3	484.7	484.2	483.7	483.2	483.1
115°	566.0	566.0	566.0	566.0	566.0	565.8	565.2	564.6	564.0	563.4	563.2
117.5°	642.4	642.6	642.8	643.1	643.3	643.3	642.8	642.4	642.0	641.6	640.6
120°	693.3	694.4	695.6	696.7	697.8	698.0	697.2	696.3	695.4	694.6	693.1
122.5°	746.2	746.7	747.2	747.6	748.0	748.1	747.7	747.3	746.9	746.5	745.5
125°	824.4	824.4	824.4	824.4	824.4	824.2	824.0	823.6	823.4	823.1	822.5
127.5°	895.3	896.1	897.0	897.9	898.7	899.0	898.5	898.0	897.6	897.1	896.5
130°	945.1	946.0	946.8	947.7	948.6	949.0	949.0	949.0	949.0	949.0	948.5
132.5°	996.0	996.7	997.3	997.9	998.6	998.8	998.5	998.3	998.1	997.8	997.3
135°	1063.2	1065.0	1066.7	1068.5	1070.2	1071.1	1071.1	1071.1	1071.1	1071.1	1070.5
137.5°	1136.5	1137.3	1138.1	1138.9	1139.7	1140.4	1140.8	1141.3	1141.8	1142.2	1141.4
140°	1185.3	1185.9	1186.5	1187.1	1187.6	1187.9	1187.9	1187.9	1187.9	1187.9	1187.6
142.5°	1229.9	1230.5	1231.1	1231.7	1232.3	1232.4	1232.2	1232.0	1231.7	1231.5	1231.5
145°	1291.8	1292.9	1294.1	1295.2	1296.4	1297.1	1297.4	1297.7	1298.0	1298.2	1298.0
147.5°	1353.1	1354.4	1355.8	1357.2	1358.6	1359.2	1358.9	1358.7	1358.5	1358.2	1358.0
150°	1390.4	1391.5	1392.8	1393.9	1395.1	1395.6	1395.6	1395.6	1395.6	1395.6	1395.6
152.5°	1425.7	1426.4	1427.1	1427.8	1428.5	1429.0	1429.2	1429.4	1429.7	1429.9	1430.6
155°	1480.0	1480.0	1480.0	1480.0	1480.0	1479.9	1479.5	1479.3	1479.0	1478.7	1479.9
157.5°	1525.7	1525.2	1524.7	1524.1	1523.6	1523.4	1523.3	1523.2	1523.2	1523.1	1524.0
160°	1552.7	1552.4	1552.1	1551.9	1551.5	1551.3	1551.0	1550.7	1550.4	1550.1	1551.0
162.5°	1577.6	1576.9	1576.1	1575.4	1574.6	1574.1	1573.8	1573.6	1573.2	1573.0	1574.5
165°	1611.1	1610.2	1609.4	1608.5	1607.7	1607.0	1606.4	1605.8	1605.2	1604.6	1606.4
167.5°	1636.8	1635.6	1634.4	1633.2	1632.0	1631.4	1631.5	1631.5	1631.6	1631.7	1633.4
170°	1651.4	1649.9	1648.5	1647.0	1645.6	1645.0	1645.3	1645.6	1645.9	1646.1	1647.9
172.5°	1661.7	1660.5	1659.3	1658.1	1656.9	1656.3	1656.4	1656.5	1656.5	1656.6	1658.5
175°	1676.0	1674.6	1673.2	1671.7	1670.3	1669.4	1669.1	1668.8	1668.5	1668.3	1670.3
177.5°	1680.7	1679.6	1678.4	1677.2	1676.1	1675.5	1675.5	1675.5	1675.5	1675.5	1677.1
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6



TEST NUMBER: P332804-935

CATALOG NUMBER: S124DIW-S795D1560U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0	1143.0
2.5°	1138.8	1140.5	1142.1	1142.9	1142.7	1142.5	1142.4	1142.2
5°	1132.7	1135.0	1137.2	1138.2	1137.7	1137.4	1137.0	1136.5
7.5°	1120.2	1122.0	1123.7	1124.5	1124.3	1124.0	1123.8	1123.5
10°	1109.6	1111.2	1112.8	1113.4	1113.0	1112.6	1112.2	1111.8
12.5°	1096.7	1098.5	1100.3	1100.9	1100.4	1099.8	1099.2	1098.6
15°	1072.1	1073.3	1074.5	1074.9	1074.3	1073.7	1073.1	1072.5
17.5°	1044.1	1044.9	1045.7	1045.9	1045.4	1045.0	1044.7	1044.2
20°	1023.3	1023.9	1024.5	1024.6	1024.2	1023.8	1023.4	1023.0
22.5°	1001.5	1002.6	1003.8	1003.9	1003.2	1002.5	1001.7	1001.0
25°	965.7	965.9	966.1	965.8	965.0	964.1	963.4	962.5
27.5°	925.5	925.0	924.5	923.8	922.7	921.7	920.7	919.6
30°	897.7	896.9	896.0	895.2	894.1	893.1	892.1	891.1
32.5°	869.5	868.6	867.6	866.6	865.6	864.5	863.5	862.5
35°	825.1	823.6	822.2	821.0	819.9	819.0	817.9	816.9
37.5°	778.4	776.9	775.4	774.0	772.6	771.3	769.9	768.5
40°	746.0	744.0	741.9	740.4	739.3	738.4	737.4	736.3
42.5°	714.5	712.2	709.8	708.3	707.7	707.0	706.3	705.6
45°	665.9	663.7	661.4	660.0	659.4	658.8	658.1	657.5
47.5°	618.8	616.3	613.7	611.7	610.2	608.6	607.1	605.5
50°	585.9	583.1	580.2	578.2	577.0	575.8	574.5	573.3
52.5°	552.2	549.6	547.1	545.1	543.5	542.0	540.4	538.9
55°	502.5	500.1	497.6	495.8	494.6	493.4	492.1	490.9
57.5°	452.7	450.4	448.1	446.3	445.1	443.9	442.8	441.6
60°	418.5	416.7	414.8	413.5	412.4	411.4	410.4	409.4
62.5°	385.1	383.5	381.9	380.5	379.4	378.4	377.5	376.4
65°	336.7	334.6	332.5	331.1	330.0	329.0	328.0	326.9
67.5°	286.6	284.6	282.7	281.5	281.3	281.0	280.7	280.4
70°	255.0	253.4	251.8	250.6	250.0	249.4	248.8	248.2
72.5°	223.4	222.1	220.8	219.9	219.2	218.6	218.0	217.4
75°	177.9	177.0	176.2	175.7	175.6	175.3	175.1	175.0
77.5°	134.7	134.4	134.2	133.8	133.3	132.8	132.2	131.7
80°	107.3	106.9	106.4	106.2	105.9	105.7	105.6	105.3
82.5°	82.7	82.4	82.1	82.0	81.8	81.5	81.4	81.1
85°	47.6	47.6	47.6	47.5	47.4	47.1	46.9	46.7
87.5°	24.0	24.4	24.7	24.9	25.1	25.1	25.2	25.4
90°	32.0	33.8	35.5	36.7	37.2	37.8	38.4	38.9
92.5°	53.5	54.5	55.5	56.2	56.6	56.9	57.3	57.6
95°	100.4	101.3	102.1	102.5	102.5	102.5	102.5	102.5
97.5°	158.2	159.2	160.2	160.7	160.7	160.7	160.7	160.7
100°	199.8	200.4	201.0	201.2	201.2	201.2	201.2	201.2
102.5°	243.8	244.7	245.5	246.0	246.2	246.5	246.7	246.9
105°	310.7	311.6	312.5	313.3	314.2	315.0	315.9	316.8
107.5°	383.1	383.8	384.7	385.0	385.0	385.0	384.9	384.8
110°	431.2	430.6	430.0	430.2	431.0	431.9	432.7	433.6



TEST NUMBER: P332804-935

CATALOG NUMBER: S124DIW-S795D1560U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.9	482.8	482.8	482.8	482.9	483.1	483.3	483.5
115°	562.8	562.6	562.3	562.0	561.7	561.5	561.1	560.9
117.5°	639.6	638.7	637.7	636.9	636.3	635.8	635.2	634.6
120°	691.6	690.3	688.8	688.4	689.0	689.5	690.1	690.7
122.5°	744.5	743.6	742.6	741.6	740.5	739.5	738.5	737.4
125°	821.9	821.4	820.8	820.2	819.6	819.1	818.5	817.9
127.5°	896.0	895.4	894.8	894.2	893.8	893.4	892.9	892.4
130°	947.9	947.3	946.7	945.8	944.7	943.6	942.4	941.2
132.5°	996.7	996.1	995.5	995.0	994.5	994.1	993.6	993.2
135°	1069.9	1069.4	1068.8	1068.0	1067.1	1066.3	1065.4	1064.5
137.5°	1140.7	1140.0	1139.2	1138.9	1139.1	1139.3	1139.4	1139.6
140°	1187.3	1187.1	1186.7	1186.5	1186.2	1185.9	1185.6	1185.3
142.5°	1231.4	1231.3	1231.3	1231.2	1231.1	1231.1	1231.1	1231.0
145°	1297.7	1297.4	1297.1	1296.5	1295.6	1294.8	1293.9	1293.0
147.5°	1357.8	1357.5	1357.3	1357.0	1356.8	1356.5	1356.2	1355.9
150°	1395.6	1395.6	1395.6	1395.5	1395.2	1394.9	1394.6	1394.3
152.5°	1431.2	1431.9	1432.6	1432.6	1431.8	1431.2	1430.4	1429.6
155°	1481.0	1482.1	1483.3	1483.3	1482.1	1481.0	1479.9	1478.7
157.5°	1524.8	1525.7	1526.6	1526.5	1525.5	1524.6	1523.5	1522.6
160°	1551.9	1552.7	1553.6	1553.2	1551.9	1550.4	1548.9	1547.5
162.5°	1576.1	1577.6	1579.2	1579.2	1577.8	1576.4	1574.9	1573.5
165°	1608.1	1609.8	1611.5	1611.9	1610.7	1609.6	1608.3	1607.2
167.5°	1635.1	1636.8	1638.6	1638.6	1636.8	1635.0	1633.1	1631.3
170°	1649.7	1651.4	1653.1	1652.9	1651.0	1648.9	1646.9	1644.9
172.5°	1660.5	1662.4	1664.4	1664.4	1662.3	1660.4	1658.3	1656.3
175°	1672.3	1674.3	1676.4	1676.4	1674.3	1672.3	1670.3	1668.3
177.5°	1678.8	1680.3	1682.0	1681.9	1680.0	1678.2	1676.4	1674.5
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6

(END OF REPORT)