

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: P332685-935

Luminaire Tested: **S124DIP-S1195D590U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332685-935
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: S124DIP-S1195D590U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6436.1 lumens
Efficiency: N/A
Efficacy: 116.8 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-Direct

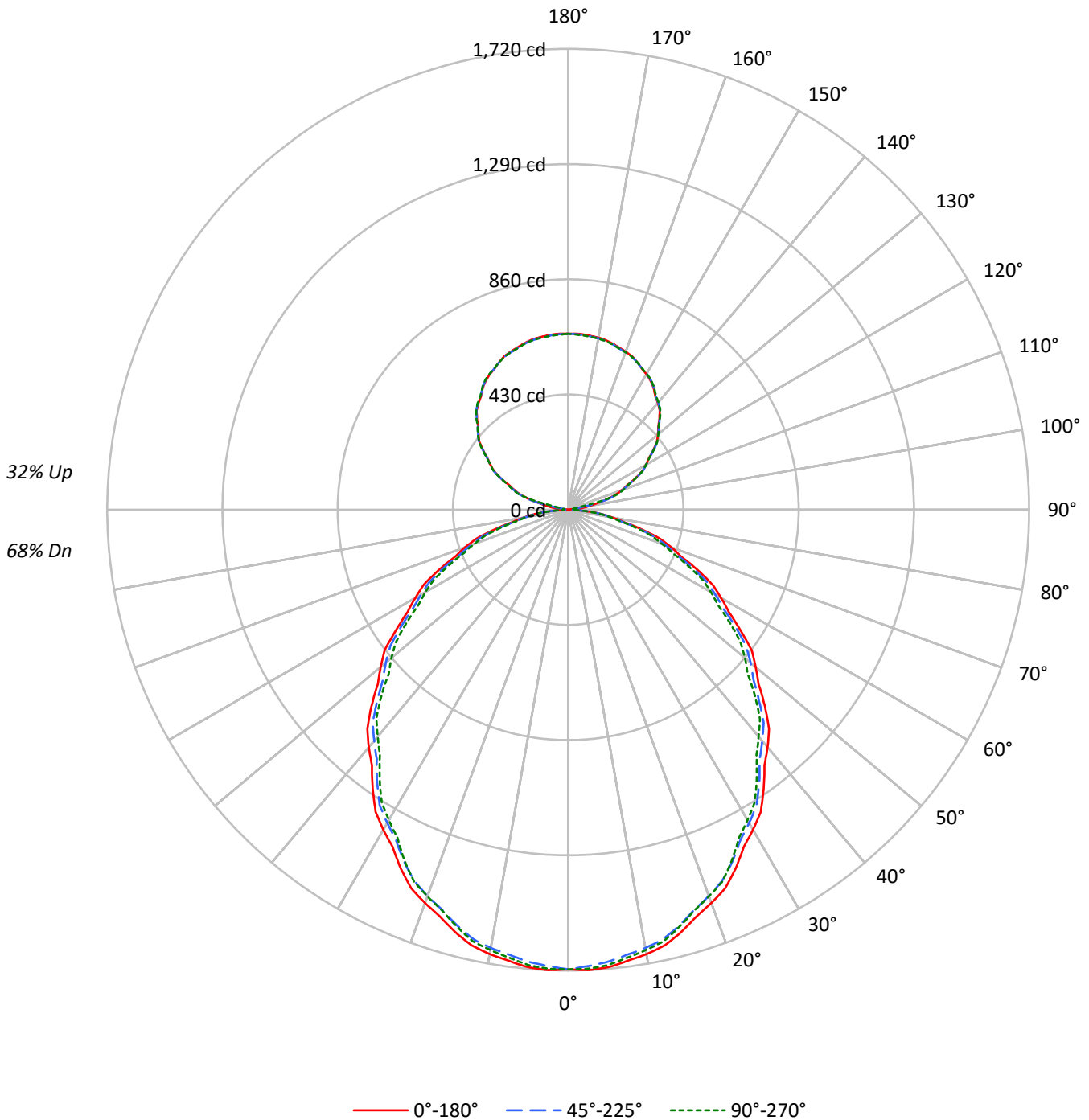
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332685-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332685-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-F

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	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73	68
1	102	97	93	90	96	92	89	85	82	79	77	73	71	69	65	63	62	58
2	93	85	79	73	87	81	75	70	72	68	64	64	61	58	57	54	52	48
3	85	75	67	61	80	71	64	59	64	58	54	57	52	49	50	47	44	41
4	78	66	58	52	73	63	56	50	56	51	46	51	46	42	45	41	38	35
5	71	59	51	45	67	56	49	43	51	44	40	45	40	36	41	36	33	30
6	66	53	45	39	62	51	43	37	46	39	35	41	36	32	37	33	29	27
7	61	48	40	34	57	46	38	33	42	35	31	37	32	28	34	29	26	24
8	57	44	36	30	53	42	34	29	38	32	27	34	29	25	31	27	23	21
9	53	40	32	27	50	38	31	26	35	29	25	32	27	23	29	24	21	19
10	49	37	29	25	47	35	28	24	32	26	22	29	24	21	27	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13852	13852	13852
5°	13893	13726	13827
10°	13806	13615	13682
15°	13639	13422	13456
20°	13418	13181	13193
25°	13165	12908	12871
30°	12855	12585	12470
35°	12534	12249	12086
40°	12199	11866	11649
45°	11851	11490	11270
50°	11465	11154	10810
55°	11050	10719	10372
60°	10634	10233	9923
65°	10164	9769	9377
70°	9640	9151	8795
75°	8833	8406	8191
80°	7861	7541	7350
85°	6873	6623	6493



TEST NUMBER: P332685-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.6	2.5
10°-20°	455.3	7.1
20°-30°	670.1	10.4
30°-40°	779.0	12.1
40°-50°	779.1	12.1
50°-60°	681.5	10.6
60°-70°	506.1	7.9
70°-80°	287.5	4.5
80°-90°	84.9	1.3
90°-100°	22.5	0.3
100°-110°	143.2	2.2
110°-120°	273.9	4.3
120°-130°	347.7	5.4
130°-140°	372.1	5.8
140°-150°	347.9	5.4
150°-160°	280.6	4.4
160°-170°	181.0	2.8
170°-180°	62.4	1.0
0°-30°	1287.0	20.0
0°-40°	2066.0	32.1
0°-60°	3526.5	54.8
0°-90°	4405.0	68.4
90°-120°	439.6	6.8
90°-150°	1507.3	23.4
90°-180°	2031.0	31.6
0°-180°	6436.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1714	1708	1694	1708	1706	163
15°	1632	1626	1606	1613	1610	460
25°	1478	1468	1449	1450	1445	680
35°	1272	1262	1243	1233	1226	795
45°	1038	1028	1006	992	987	800
55°	785	780	762	746	737	703
65°	532	525	511	498	491	527
75°	283	276	270	264	263	301
85°	74	74	72	71	70	82
90°	2	7	11	14	15	5
95°	27	11	11	14	14	35
105°	148	151	153	156	140	155
115°	276	277	277	278	278	272
125°	388	390	389	390	391	346
135°	481	481	483	484	485	371
145°	555	556	556	557	558	347
155°	609	609	608	609	608	280
165°	642	640	640	643	639	181
175°	657	654	654	658	653	63
180°	657	657	657	657	657	



TEST NUMBER: P332685-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1720.2	1719.5	1718.7	1718.0	1717.3	1715.5	1712.9	1710.2	1707.5	1704.9	1707.3
5°	1714.4	1713.2	1712.0	1710.8	1709.6	1707.3	1703.9	1700.6	1697.2	1693.8	1697.2
7.5°	1698.5	1697.3	1696.1	1694.8	1693.6	1691.2	1687.4	1683.7	1680.0	1676.2	1679.0
10°	1684.2	1683.0	1681.8	1680.5	1679.3	1676.7	1672.8	1668.8	1664.8	1660.9	1663.3
12.5°	1665.5	1664.3	1663.0	1661.8	1660.6	1657.9	1653.7	1649.5	1645.3	1641.1	1643.7
15°	1631.9	1630.7	1629.5	1628.3	1627.0	1624.2	1619.5	1615.0	1610.4	1605.9	1607.7
17.5°	1591.6	1590.0	1588.5	1587.0	1585.4	1582.5	1578.1	1573.8	1569.5	1565.1	1566.3
20°	1561.9	1560.3	1558.8	1557.3	1555.7	1552.6	1548.1	1543.5	1539.0	1534.3	1535.2
22.5°	1529.9	1527.9	1526.0	1523.9	1521.9	1518.5	1514.0	1509.4	1504.9	1500.2	1501.9
25°	1478.0	1475.8	1473.7	1471.5	1469.4	1466.2	1461.9	1457.7	1453.4	1449.1	1449.4
27.5°	1418.6	1416.3	1414.2	1412.0	1409.8	1406.7	1402.7	1398.8	1394.8	1390.8	1390.1
30°	1379.0	1376.6	1374.1	1371.7	1369.2	1366.0	1362.0	1358.1	1354.1	1350.1	1348.9
32.5°	1337.2	1335.0	1332.8	1330.6	1328.4	1325.2	1320.9	1316.7	1312.5	1308.3	1306.8
35°	1271.8	1269.6	1267.5	1265.3	1263.2	1260.0	1255.7	1251.5	1247.2	1242.9	1240.7
37.5°	1202.7	1200.8	1198.9	1196.9	1194.9	1191.6	1187.1	1182.5	1177.8	1173.3	1171.0
40°	1157.6	1155.2	1152.7	1150.3	1147.9	1144.4	1139.8	1135.1	1130.6	1126.0	1122.9
42.5°	1109.2	1107.8	1106.3	1104.8	1103.4	1100.1	1095.0	1089.9	1084.9	1079.8	1076.2
45°	1038.0	1035.9	1033.7	1031.6	1029.5	1026.0	1021.1	1016.2	1011.2	1006.4	1003.1
47.5°	963.5	962.0	960.5	959.1	957.6	954.7	950.1	945.6	941.1	936.6	932.8
50°	912.9	911.7	910.4	909.2	908.0	905.3	901.0	896.7	892.4	888.1	883.9
52.5°	863.4	861.9	860.5	859.0	857.6	854.5	850.1	845.5	841.0	836.5	832.7
55°	785.1	784.1	783.3	782.3	781.4	778.8	774.5	770.3	765.9	761.6	758.0
57.5°	710.2	709.2	708.2	707.1	706.1	703.4	699.2	695.0	690.8	686.6	683.1
60°	658.6	657.0	655.5	654.0	652.5	649.7	645.8	641.8	637.7	633.8	631.0
62.5°	608.0	606.7	605.4	604.1	602.9	600.1	595.9	591.7	587.5	583.2	580.7
65°	532.1	530.5	529.0	527.4	526.0	523.7	520.6	517.5	514.5	511.4	508.4
67.5°	455.6	454.3	452.8	451.4	450.0	447.8	444.9	442.0	439.0	436.1	433.2
70°	408.4	406.2	404.1	401.9	399.8	397.5	395.0	392.6	390.1	387.7	385.3
72.5°	357.7	355.6	353.4	351.3	349.2	347.2	345.2	343.2	341.3	339.3	337.3
75°	283.2	281.7	280.2	278.6	277.1	275.6	274.1	272.5	271.0	269.5	268.3
77.5°	212.0	211.3	210.7	210.0	209.3	208.3	207.0	205.6	204.3	202.9	202.6
80°	169.1	168.2	167.3	166.3	165.5	164.7	164.1	163.4	162.8	162.2	161.6
82.5°	127.3	126.9	126.5	126.1	125.6	125.4	125.2	125.1	124.9	124.8	124.5
85°	74.2	74.2	74.2	74.2	74.2	74.0	73.4	72.8	72.1	71.5	71.5
87.5°	28.9	28.9	28.8	28.8	28.8	28.8	28.8	28.7	28.6	28.6	28.7
90°	1.5	2.7	3.9	5.1	6.3	7.3	8.2	9.0	9.9	10.8	11.5
92.5°	6.2	6.3	6.3	6.4	6.5	6.9	7.8	8.7	9.6	10.4	11.1
95°	27.0	23.3	19.6	15.8	12.1	10.3	10.5	10.6	10.7	10.8	11.5
97.5°	57.3	59.7	62.0	64.3	66.6	61.6	49.5	37.4	25.1	13.0	13.0
100°	80.5	82.5	84.5	86.4	88.4	81.9	66.8	51.7	36.7	21.6	19.7
102.5°	106.5	107.9	109.3	110.8	112.3	112.0	110.0	108.1	106.1	104.1	84.1
105°	147.8	148.5	149.1	149.8	150.4	151.0	151.6	152.1	152.7	153.3	154.2
107.5°	186.2	186.6	186.9	187.2	187.5	188.0	188.8	189.6	190.3	191.1	191.6
110°	212.2	212.5	212.8	213.2	213.4	214.0	214.6	215.2	215.9	216.6	216.8



TEST NUMBER: P332685-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	237.3	237.9	238.5	239.1	239.7	240.1	240.4	240.7	241.1	241.3	241.3
115°	276.0	276.4	276.6	277.0	277.3	277.4	277.3	277.2	277.1	277.0	277.2
117.5°	310.9	311.3	311.8	312.2	312.6	313.0	313.2	313.5	313.7	313.9	313.9
120°	334.5	334.9	335.4	335.8	336.2	336.4	336.3	336.1	336.0	336.0	336.1
122.5°	356.5	356.7	357.0	357.2	357.5	357.7	357.9	358.0	358.2	358.3	358.4
125°	388.0	388.4	388.9	389.3	389.8	389.9	389.6	389.4	389.2	389.0	389.3
127.5°	417.8	417.9	418.1	418.2	418.3	418.6	419.1	419.6	420.1	420.6	420.5
130°	437.1	437.2	437.3	437.5	437.6	437.7	438.1	438.4	438.8	439.1	439.2
132.5°	454.8	455.0	455.2	455.4	455.6	455.9	456.3	456.7	457.1	457.5	457.6
135°	481.3	481.2	481.1	481.0	480.9	481.0	481.5	481.9	482.3	482.8	483.0
137.5°	504.8	504.8	504.9	504.9	505.0	505.2	505.7	506.2	506.7	507.1	507.4
140°	520.1	520.3	520.6	520.7	521.0	521.2	521.4	521.7	521.9	522.1	522.4
142.5°	533.9	534.3	534.7	535.0	535.5	535.7	535.8	536.0	536.1	536.2	536.5
145°	555.0	555.3	555.6	555.9	556.3	556.5	556.5	556.5	556.5	556.5	556.6
147.5°	571.8	572.4	573.0	573.6	574.2	574.5	574.4	574.3	574.1	574.0	574.1
150°	583.9	584.4	584.9	585.3	585.7	585.9	585.7	585.7	585.6	585.4	585.4
152.5°	594.2	594.5	594.9	595.2	595.6	595.6	595.5	595.3	595.0	594.9	595.0
155°	608.6	608.6	608.7	608.8	609.0	608.8	608.6	608.2	607.9	607.5	608.0
157.5°	620.6	620.5	620.4	620.4	620.4	620.1	619.7	619.4	619.0	618.6	619.2
160°	627.7	627.3	627.0	626.7	626.4	626.1	626.0	625.9	625.8	625.7	626.4
162.5°	634.0	633.5	633.1	632.7	632.3	632.1	631.9	631.8	631.7	631.6	632.2
165°	641.9	641.4	640.8	640.2	639.7	639.5	639.5	639.5	639.5	639.5	640.3
167.5°	648.2	647.6	647.0	646.5	645.9	645.6	645.6	645.5	645.4	645.3	646.4
170°	651.8	651.1	650.4	649.8	649.1	648.8	648.9	649.0	649.2	649.3	650.1
172.5°	654.1	653.4	652.8	652.1	651.5	651.2	651.3	651.4	651.5	651.6	652.6
175°	656.7	656.0	655.3	654.7	654.0	653.8	653.8	654.0	654.1	654.2	655.1
177.5°	657.8	657.2	656.6	656.0	655.4	655.1	655.3	655.5	655.7	655.8	656.6
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7



TEST NUMBER: P332685-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8	1715.8
2.5°	1709.7	1712.2	1714.6	1715.7	1715.5	1715.2	1714.9	1714.7
5°	1700.6	1703.9	1707.3	1708.7	1708.1	1707.4	1706.8	1706.2
7.5°	1681.6	1684.3	1687.0	1688.2	1687.8	1687.4	1687.0	1686.7
10°	1665.7	1668.2	1670.6	1671.5	1670.9	1670.3	1669.7	1669.0
12.5°	1646.4	1649.1	1651.8	1652.7	1651.8	1651.0	1650.1	1649.2
15°	1609.5	1611.4	1613.2	1613.6	1612.7	1611.8	1610.8	1610.0
17.5°	1567.5	1568.7	1569.8	1570.0	1569.4	1568.8	1568.2	1567.6
20°	1536.2	1537.1	1538.0	1538.2	1537.6	1537.0	1536.4	1535.7
22.5°	1503.6	1505.2	1506.8	1507.1	1506.1	1504.9	1503.8	1502.7
25°	1449.8	1450.0	1450.4	1449.8	1448.6	1447.4	1446.2	1445.0
27.5°	1389.3	1388.6	1387.8	1386.7	1385.2	1383.7	1382.2	1380.6
30°	1347.6	1346.4	1345.2	1343.8	1342.3	1340.8	1339.3	1337.7
32.5°	1305.4	1303.9	1302.4	1301.0	1299.4	1297.9	1296.4	1294.9
35°	1238.6	1236.5	1234.3	1232.5	1231.0	1229.4	1227.9	1226.4
37.5°	1168.6	1166.3	1164.0	1161.8	1159.9	1157.8	1155.8	1153.7
40°	1119.9	1116.8	1113.8	1111.5	1110.0	1108.5	1106.9	1105.4
42.5°	1072.7	1069.2	1065.7	1063.3	1062.3	1061.3	1060.2	1059.2
45°	999.7	996.3	993.0	990.8	989.9	988.9	988.1	987.1
47.5°	929.0	925.2	921.4	918.3	916.0	913.7	911.4	909.0
50°	879.6	875.3	871.1	868.0	866.2	864.4	862.5	860.7
52.5°	828.9	825.1	821.3	818.3	816.0	813.6	811.3	809.0
55°	754.3	750.7	747.0	744.2	742.4	740.6	738.7	736.9
57.5°	679.7	676.1	672.7	670.0	668.3	666.5	664.7	663.0
60°	628.3	625.6	622.8	620.7	619.1	617.6	616.1	614.6
62.5°	578.2	575.7	573.2	571.2	569.6	568.1	566.6	565.1
65°	505.3	502.3	499.2	497.0	495.4	493.9	492.3	490.9
67.5°	430.2	427.3	424.4	422.7	422.2	421.8	421.4	420.9
70°	382.8	380.4	377.9	376.3	375.3	374.4	373.5	372.6
72.5°	335.4	333.5	331.5	330.0	329.2	328.2	327.3	326.4
75°	267.0	265.8	264.6	263.8	263.6	263.2	262.9	262.6
77.5°	202.2	201.8	201.5	200.9	200.1	199.3	198.5	197.7
80°	161.0	160.4	159.8	159.4	159.0	158.7	158.4	158.1
82.5°	124.1	123.7	123.4	123.0	122.7	122.4	122.1	121.8
85°	71.5	71.5	71.5	71.4	71.0	70.7	70.4	70.1
87.5°	28.8	28.9	29.1	29.2	29.2	29.3	29.3	29.4
90°	12.1	12.7	13.4	13.9	14.1	14.3	14.6	14.7
92.5°	11.7	12.4	13.0	13.3	13.4	13.4	13.5	13.5
95°	12.1	12.7	13.4	13.8	13.9	14.0	14.1	14.2
97.5°	13.1	13.2	13.3	13.3	13.4	13.5	13.6	13.8
100°	17.9	16.0	14.2	13.3	13.4	13.5	13.6	13.8
102.5°	64.1	44.1	24.0	14.0	14.1	14.1	14.1	14.1
105°	155.2	156.2	157.1	155.7	151.8	147.8	143.9	140.0
107.5°	192.0	192.5	193.0	193.4	193.8	194.2	194.7	195.1
110°	217.1	217.2	217.5	217.7	218.1	218.3	218.7	219.0



TEST NUMBER: P332685-935

CATALOG NUMBER: S124DIP-S1195D590U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	241.3	241.3	241.2	241.3	241.8	242.2	242.6	243.0
115°	277.4	277.7	277.8	278.0	278.0	278.0	278.0	278.0
117.5°	313.8	313.8	313.7	313.7	313.7	313.7	313.6	313.6
120°	336.4	336.6	336.8	336.8	336.6	336.4	336.1	336.0
122.5°	358.6	358.7	358.9	358.8	358.6	358.3	358.2	357.9
125°	389.6	389.9	390.3	390.5	390.6	390.7	390.8	391.0
127.5°	420.5	420.4	420.3	420.3	420.2	420.1	420.0	419.9
130°	439.3	439.4	439.5	439.5	439.5	439.5	439.5	439.5
132.5°	457.8	457.9	458.0	458.0	457.9	457.8	457.7	457.6
135°	483.2	483.5	483.6	483.9	484.1	484.3	484.6	484.7
137.5°	507.6	507.9	508.1	508.2	508.2	508.1	508.0	507.9
140°	522.7	523.1	523.4	523.6	523.7	523.8	523.9	524.0
142.5°	536.7	536.9	537.2	537.4	537.4	537.4	537.4	537.4
145°	556.6	556.8	556.9	557.1	557.2	557.5	557.8	557.9
147.5°	574.2	574.3	574.4	574.5	574.6	574.7	574.8	574.9
150°	585.4	585.4	585.4	585.5	585.6	585.7	585.8	585.9
152.5°	595.2	595.4	595.6	595.6	595.6	595.5	595.4	595.4
155°	608.4	608.8	609.2	609.3	609.0	608.6	608.4	608.0
157.5°	619.7	620.4	620.9	620.9	620.4	619.7	619.2	618.6
160°	627.0	627.7	628.4	628.4	627.7	627.0	626.4	625.7
162.5°	632.9	633.5	634.2	634.2	633.4	632.7	632.0	631.2
165°	641.2	642.0	643.0	642.9	641.9	640.9	640.0	638.9
167.5°	647.3	648.2	649.2	649.1	648.1	647.0	645.8	644.8
170°	651.0	651.9	652.8	652.6	651.6	650.5	649.4	648.3
172.5°	653.4	654.3	655.1	655.0	653.8	652.6	651.4	650.2
175°	656.2	657.1	658.1	658.0	656.7	655.3	654.0	652.7
177.5°	657.3	658.0	658.7	658.5	657.5	656.4	655.3	654.3
180°	656.7	656.7	656.7	656.7	656.7	656.7	656.7	656.7

(END OF REPORT)