

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: P332677-935

Luminaire Tested: **SA4XXDIP-C1195D365U935-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332677-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D365U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

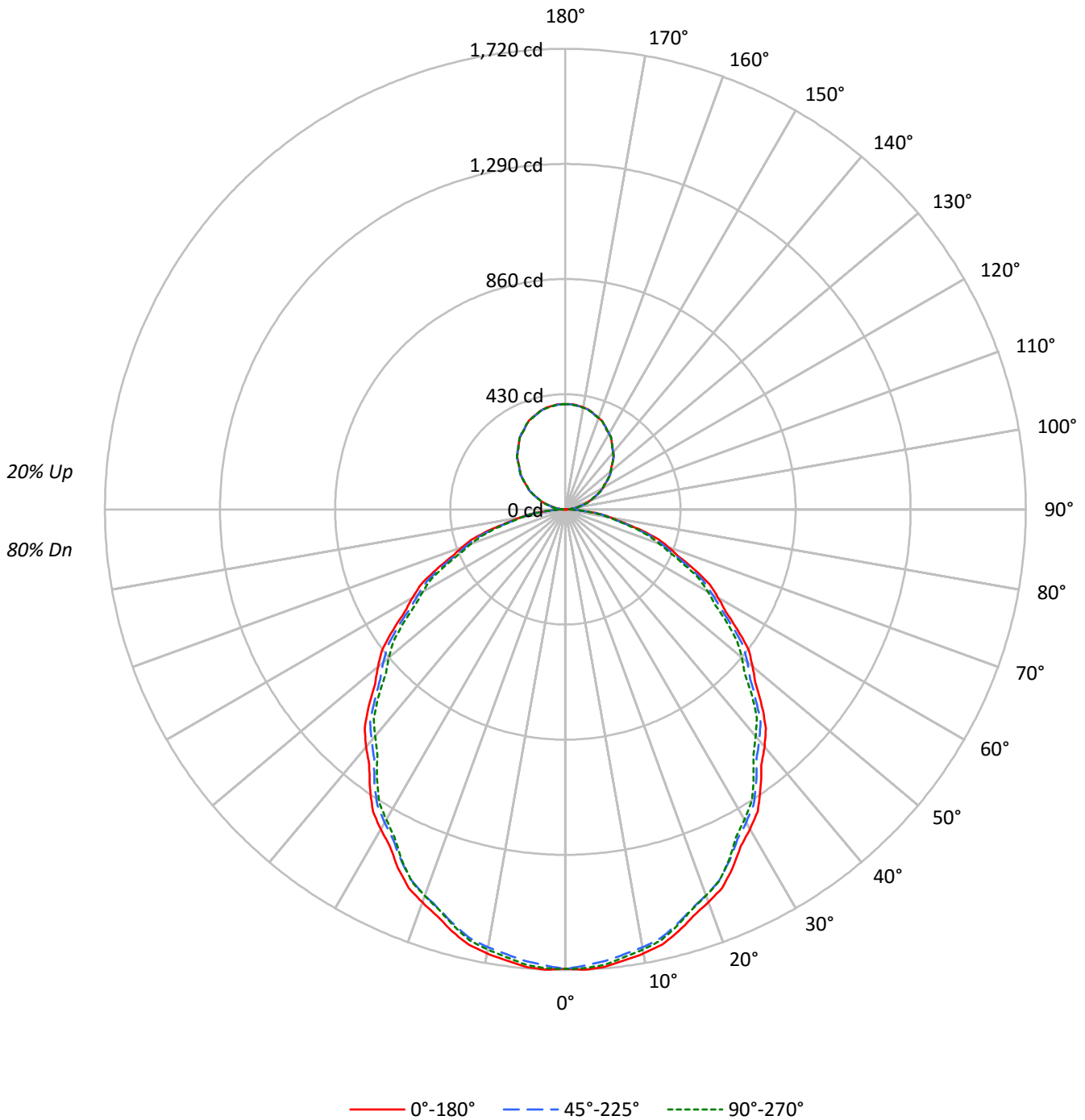
Lumens per Lamp: N/A
Luminaire Lumens: 5495.7 lumens
Efficiency: N/A
Efficacy: 110.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 49.8
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	114	114	114	114	109	109	109	109	100	100	100	92	92	92	84	84	84	80
1	104	100	96	92	100	96	92	89	88	85	82	81	78	76	74	72	71	67
2	95	87	81	75	91	84	78	73	77	72	68	71	67	64	65	62	60	56
3	87	77	69	63	83	74	67	61	68	62	57	63	58	54	58	54	51	48
4	80	68	60	53	76	66	58	52	61	54	49	56	51	46	52	47	44	41
5	73	61	52	46	70	59	51	45	54	48	43	50	45	40	47	42	38	36
6	68	55	46	40	64	53	45	39	49	42	37	46	40	35	42	37	34	31
7	63	50	41	35	60	48	40	35	45	38	33	42	36	31	39	34	30	28
8	58	45	37	32	56	44	36	31	41	34	30	38	32	28	36	31	27	25
9	54	42	34	28	52	40	33	28	38	31	27	35	30	25	33	28	24	22
10	51	38	31	26	49	37	30	25	35	28	24	33	27	23	31	26	22	20

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.6	2.9
10°-20°	455.3	8.3
20°-30°	670.1	12.2
30°-40°	779.0	14.2
40°-50°	779.1	14.2
50°-60°	681.5	12.4
60°-70°	506.1	9.2
70°-80°	287.5	5.2
80°-90°	84.2	1.5
90°-100°	25.9	0.5
100°-110°	76.9	1.4
110°-120°	130.5	2.4
120°-130°	172.0	3.1
130°-140°	193.2	3.5
140°-150°	189.8	3.5
150°-160°	159.7	2.9
160°-170°	106.2	1.9
170°-180°	37.2	0.7
0°-30°	1287.0	23.4
0°-40°	2066.0	37.6
0°-60°	3526.5	64.2
0°-90°	4404.2	80.1
90°-120°	233.3	4.2
90°-150°	788.3	14.3
90°-180°	1091.0	19.9
0°-180°	5495.7	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°	1	4	7	8	9	5
95°	18	21	23	24	24	20
105°	71	71	72	73	74	75
115°	133	133	132	132	132	131
125°	193	193	193	192	192	172
135°	249	251	251	250	250	193
145°	303	304	304	304	303	189
155°	347	347	347	348	347	160
165°	378	377	376	378	377	106
175°	393	391	391	393	391	37
180°	393	393	393	393	393	



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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°	28.8	28.7	28.6	28.5	28.4	28.2	28.2	28.0	27.9	27.7	27.8
90°	0.9	1.6	2.4	3.2	3.9	4.6	5.1	5.6	6.1	6.7	7.1
92.5°	6.5	7.4	8.2	9.0	9.9	10.5	10.9	11.3	11.7	12.1	12.3
95°	18.3	18.9	19.5	20.1	20.7	21.3	21.7	22.2	22.6	23.2	23.3
97.5°	31.9	32.4	32.9	33.3	33.8	34.4	34.9	35.5	36.0	36.6	36.9
100°	42.6	42.9	43.1	43.4	43.7	44.1	44.7	45.4	46.0	46.6	46.7
102.5°	53.8	53.9	54.0	54.2	54.2	54.6	55.1	55.7	56.2	56.7	57.0
105°	70.9	70.9	71.0	71.1	71.1	71.3	71.6	71.9	72.2	72.4	72.6
107.5°	88.9	88.9	89.0	89.1	89.2	89.2	89.3	89.3	89.4	89.4	89.5
110°	101.0	101.2	101.3	101.4	101.5	101.6	101.5	101.4	101.3	101.3	101.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	113.7	113.7	113.7	113.7	113.7	113.7	113.6	113.5	113.4	113.2	113.2
115°	132.7	132.7	132.7	132.7	132.7	132.6	132.4	132.3	132.2	132.1	132.0
117.5°	150.5	150.6	150.7	150.7	150.8	150.8	150.7	150.6	150.4	150.3	150.2
120°	162.5	162.7	163.0	163.2	163.6	163.6	163.4	163.2	163.0	162.8	162.5
122.5°	174.9	175.0	175.1	175.2	175.3	175.3	175.2	175.1	175.0	175.0	174.7
125°	193.2	193.2	193.2	193.2	193.2	193.1	193.1	193.0	193.0	192.9	192.8
127.5°	209.8	210.0	210.3	210.4	210.6	210.7	210.6	210.4	210.3	210.3	210.1
130°	221.5	221.7	221.9	222.1	222.3	222.4	222.4	222.4	222.4	222.4	222.3
132.5°	233.4	233.6	233.7	233.8	234.0	234.0	234.0	233.9	233.9	233.8	233.7
135°	249.2	249.6	249.9	250.4	250.8	251.0	251.0	251.0	251.0	251.0	250.9
137.5°	266.3	266.6	266.7	266.9	267.1	267.3	267.3	267.4	267.6	267.7	267.5
140°	277.8	277.9	278.0	278.2	278.4	278.4	278.4	278.4	278.4	278.4	278.4
142.5°	288.3	288.3	288.5	288.6	288.8	288.9	288.8	288.7	288.7	288.6	288.6
145°	302.7	303.0	303.2	303.5	303.8	304.0	304.0	304.1	304.2	304.3	304.2
147.5°	317.1	317.5	317.7	318.1	318.4	318.5	318.5	318.4	318.4	318.3	318.2
150°	325.9	326.1	326.4	326.7	326.9	327.1	327.1	327.1	327.1	327.1	327.1
152.5°	334.2	334.3	334.4	334.6	334.8	334.8	334.9	335.0	335.0	335.1	335.3
155°	346.8	346.8	346.8	346.8	346.8	346.8	346.7	346.6	346.6	346.6	346.8
157.5°	357.6	357.4	357.3	357.2	357.1	357.0	357.0	357.0	357.0	357.0	357.1
160°	363.9	363.8	363.8	363.7	363.6	363.5	363.5	363.4	363.3	363.3	363.5
162.5°	369.7	369.5	369.4	369.2	369.0	368.9	368.9	368.8	368.7	368.6	369.0
165°	377.5	377.4	377.2	376.9	376.8	376.6	376.4	376.3	376.2	376.1	376.4
167.5°	383.6	383.3	383.1	382.7	382.5	382.3	382.4	382.4	382.4	382.4	382.8
170°	387.0	386.7	386.3	386.0	385.6	385.6	385.6	385.6	385.7	385.8	386.2
172.5°	389.4	389.2	388.8	388.6	388.3	388.1	388.1	388.2	388.2	388.2	388.7
175°	392.8	392.4	392.1	391.8	391.4	391.2	391.2	391.1	391.1	391.0	391.4
177.5°	393.9	393.6	393.3	393.0	392.8	392.7	392.7	392.7	392.7	392.7	393.0
180°	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4



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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°	27.9	28.0	28.1	28.2	28.2	28.2	28.2	28.2
90°	7.5	7.9	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	12.6	12.7	13.0	13.2	13.3	13.3	13.4	13.5
95°	23.5	23.8	23.9	24.0	24.0	24.0	24.0	24.0
97.5°	37.0	37.3	37.5	37.6	37.6	37.6	37.6	37.6
100°	46.8	46.9	47.1	47.2	47.2	47.2	47.2	47.2
102.5°	57.2	57.3	57.5	57.7	57.7	57.8	57.8	57.9
105°	72.8	73.0	73.2	73.4	73.6	73.9	74.0	74.2
107.5°	89.8	90.0	90.1	90.2	90.2	90.2	90.2	90.1
110°	101.1	100.9	100.7	100.8	101.0	101.3	101.4	101.6



TEST NUMBER: P332677-935

CATALOG NUMBER: SA4XXDIP-C1195D365U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	113.2	113.1	113.1	113.1	113.2	113.2	113.2	113.3
115°	131.9	131.8	131.7	131.7	131.6	131.6	131.5	131.5
117.5°	149.9	149.6	149.5	149.3	149.1	149.0	148.9	148.7
120°	162.1	161.8	161.4	161.4	161.4	161.6	161.7	161.9
122.5°	174.5	174.3	174.0	173.7	173.6	173.3	173.1	172.8
125°	192.6	192.5	192.3	192.2	192.1	191.9	191.8	191.7
127.5°	210.0	209.8	209.7	209.6	209.5	209.4	209.2	209.1
130°	222.1	222.0	221.9	221.6	221.4	221.1	220.8	220.6
132.5°	233.6	233.4	233.3	233.2	233.1	233.0	232.9	232.7
135°	250.7	250.6	250.5	250.3	250.1	249.9	249.7	249.5
137.5°	267.3	267.2	267.0	266.9	266.9	267.0	267.0	267.1
140°	278.3	278.2	278.1	278.0	278.0	277.9	277.8	277.8
142.5°	288.6	288.6	288.5	288.5	288.5	288.5	288.5	288.5
145°	304.1	304.0	304.0	303.8	303.7	303.4	303.2	303.1
147.5°	318.2	318.1	318.1	318.1	318.0	317.9	317.8	317.8
150°	327.1	327.1	327.1	327.0	327.0	326.9	326.8	326.7
152.5°	335.4	335.6	335.8	335.7	335.5	335.4	335.2	335.0
155°	347.1	347.3	347.6	347.6	347.3	347.1	346.8	346.6
157.5°	357.3	357.6	357.7	357.7	357.5	357.3	357.1	356.8
160°	363.7	363.9	364.1	364.0	363.7	363.3	363.0	362.7
162.5°	369.4	369.7	370.1	370.1	369.8	369.5	369.1	368.8
165°	376.9	377.3	377.6	377.7	377.5	377.2	376.9	376.7
167.5°	383.2	383.6	384.0	384.0	383.6	383.1	382.7	382.3
170°	386.6	387.0	387.4	387.4	386.9	386.4	386.0	385.5
172.5°	389.2	389.6	390.0	390.0	389.6	389.1	388.7	388.1
175°	391.9	392.4	392.9	392.9	392.4	391.9	391.4	391.0
177.5°	393.4	393.8	394.2	394.2	393.7	393.3	392.9	392.4
180°	393.4	393.4	393.4	393.4	393.4	393.4	393.4	393.4

(END OF REPORT)