

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: P332685-927

Luminaire Tested: **SA4XXDIP-C1195D590U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332685-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D590U927-4F0-1E-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: 5921.7 lumens
Efficiency: N/A
Efficacy: 107.5 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-Direct

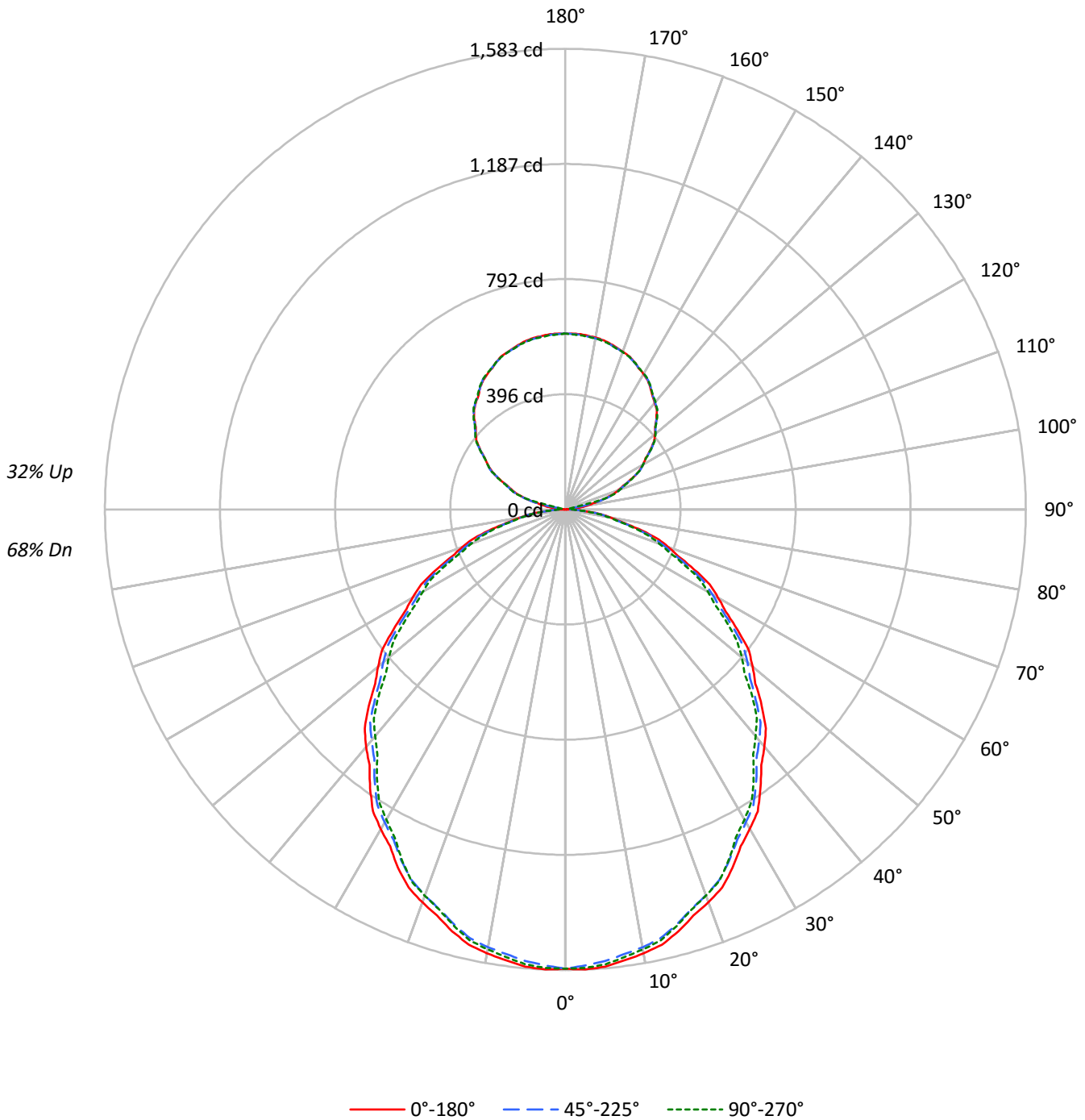
Input Watts (W): 55.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332685-927

CATALOG NUMBER: SA4XXDIP-C1195D590U927-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P332685-927

CATALOG NUMBER: SA4XXDIP-C1195D590U927-4F0-1E-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	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°	12745	12745	12745
5°	12783	12630	12721
10°	12703	12527	12588
15°	12549	12349	12380
20°	12345	12128	12138
25°	12113	11875	11843
30°	11828	11580	11473
35°	11532	11269	11121
40°	11225	10918	10718
45°	10904	10572	10369
50°	10550	10262	9946
55°	10166	9864	9543
60°	9783	9415	9131
65°	9352	8990	8627
70°	8868	8419	8091
75°	8125	7735	7536
80°	7234	6936	6760
85°	6326	6095	5974



TEST NUMBER: P332685-927

CATALOG NUMBER: SA4XXDIP-C1195D590U927-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	2.5
10°-20°	418.9	7.1
20°-30°	616.5	10.4
30°-40°	716.7	12.1
40°-50°	716.8	12.1
50°-60°	627.0	10.6
60°-70°	465.6	7.9
70°-80°	264.5	4.5
80°-90°	78.1	1.3
90°-100°	20.7	0.3
100°-110°	131.7	2.2
110°-120°	252.0	4.3
120°-130°	319.9	5.4
130°-140°	342.3	5.8
140°-150°	320.1	5.4
150°-160°	258.1	4.4
160°-170°	166.5	2.8
170°-180°	57.4	1.0
0°-30°	1184.1	20.0
0°-40°	1900.8	32.1
0°-60°	3244.6	54.8
0°-90°	4052.9	68.4
90°-120°	404.5	6.8
90°-150°	1386.8	23.4
90°-180°	1869.0	31.6
0°-180°	5921.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1579	1579	1579	1579	1579	
5°	1577	1572	1558	1571	1570	150
15°	1502	1496	1478	1484	1481	423
25°	1360	1350	1333	1334	1330	625
35°	1170	1161	1144	1135	1128	731
45°	955	946	926	913	908	736
55°	722	718	701	686	678	647
65°	490	483	471	458	452	485
75°	260	254	248	243	242	277
85°	68	68	66	66	64	75
90°	1	6	10	13	14	5
95°	25	10	10	13	13	32
105°	136	139	141	144	129	142
115°	254	255	255	256	256	250
125°	357	359	358	359	360	319
135°	443	442	444	445	446	341
145°	511	512	512	512	513	319
155°	560	560	559	561	559	258
165°	591	588	588	592	588	167
175°	604	602	602	605	601	58
180°	604	604	604	604	604	



TEST NUMBER: P332685-927

CATALOG NUMBER: SA4XXDIP-C1195D590U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1582.7	1582.1	1581.4	1580.7	1580.0	1578.4	1576.0	1573.5	1571.1	1568.6	1570.8
5°	1577.4	1576.3	1575.2	1574.1	1573.0	1570.8	1567.7	1564.6	1561.5	1558.5	1561.5
7.5°	1562.7	1561.6	1560.5	1559.3	1558.2	1556.0	1552.5	1549.1	1545.7	1542.2	1544.8
10°	1549.6	1548.5	1547.4	1546.2	1545.1	1542.7	1539.1	1535.4	1531.8	1528.1	1530.3
12.5°	1532.4	1531.3	1530.1	1529.0	1527.9	1525.3	1521.5	1517.7	1513.8	1509.9	1512.4
15°	1501.5	1500.4	1499.3	1498.2	1497.0	1494.4	1490.1	1485.9	1481.7	1477.5	1479.2
17.5°	1464.3	1462.9	1461.5	1460.2	1458.7	1456.0	1452.0	1448.0	1444.1	1440.0	1441.1
20°	1437.0	1435.6	1434.2	1432.8	1431.4	1428.5	1424.3	1420.1	1415.9	1411.7	1412.5
22.5°	1407.6	1405.8	1404.0	1402.1	1400.3	1397.2	1393.0	1388.8	1384.6	1380.3	1381.9
25°	1359.9	1357.9	1355.9	1353.9	1351.9	1349.0	1345.0	1341.2	1337.2	1333.2	1333.6
27.5°	1305.2	1303.1	1301.2	1299.1	1297.1	1294.3	1290.6	1287.0	1283.3	1279.6	1279.0
30°	1268.8	1266.5	1264.2	1262.0	1259.8	1256.8	1253.2	1249.5	1245.9	1242.2	1241.1
32.5°	1230.3	1228.3	1226.3	1224.2	1222.2	1219.2	1215.4	1211.5	1207.6	1203.7	1202.4
35°	1170.1	1168.2	1166.2	1164.2	1162.2	1159.3	1155.3	1151.4	1147.5	1143.5	1141.5
37.5°	1106.6	1104.8	1103.0	1101.2	1099.4	1096.4	1092.2	1088.0	1083.7	1079.5	1077.4
40°	1065.1	1062.9	1060.6	1058.4	1056.1	1052.9	1048.7	1044.4	1040.2	1036.0	1033.2
42.5°	1020.6	1019.2	1017.9	1016.5	1015.2	1012.2	1007.5	1002.8	998.1	993.5	990.2
45°	955.1	953.1	951.1	949.1	947.2	944.0	939.4	934.9	930.4	926.0	922.9
47.5°	886.5	885.1	883.8	882.4	881.1	878.4	874.2	870.1	865.9	861.7	858.3
50°	840.0	838.8	837.7	836.5	835.4	832.9	828.9	825.1	821.1	817.1	813.3
52.5°	794.4	793.1	791.7	790.4	789.0	786.2	782.1	777.9	773.8	769.6	766.1
55°	722.3	721.4	720.6	719.8	718.9	716.5	712.6	708.7	704.7	700.8	697.4
57.5°	653.5	652.5	651.6	650.6	649.7	647.2	643.3	639.4	635.6	631.7	628.5
60°	605.9	604.5	603.1	601.7	600.3	597.8	594.1	590.5	586.8	583.1	580.6
62.5°	559.4	558.2	557.0	555.8	554.7	552.2	548.3	544.4	540.5	536.6	534.3
65°	489.6	488.1	486.7	485.3	483.9	481.8	479.0	476.2	473.4	470.6	467.8
67.5°	419.2	418.0	416.6	415.3	414.1	412.0	409.3	406.6	403.9	401.2	398.5
70°	375.7	373.8	371.8	369.8	367.8	365.8	363.5	361.2	358.9	356.7	354.5
72.5°	329.2	327.2	325.2	323.2	321.3	319.4	317.6	315.8	314.0	312.2	310.4
75°	260.5	259.2	257.8	256.4	254.9	253.6	252.2	250.7	249.4	248.0	246.8
77.5°	195.0	194.4	193.8	193.2	192.6	191.6	190.4	189.2	188.0	186.7	186.4
80°	155.6	154.7	153.9	153.0	152.3	151.5	151.0	150.4	149.8	149.2	148.7
82.5°	117.2	116.8	116.4	116.0	115.6	115.3	115.2	115.1	114.9	114.9	114.5
85°	68.3	68.3	68.3	68.3	68.3	68.0	67.5	66.9	66.3	65.8	65.8
87.5°	26.6	26.6	26.5	26.5	26.5	26.5	26.5	26.4	26.3	26.3	26.4
90°	1.3	2.5	3.6	4.7	5.8	6.7	7.5	8.3	9.1	9.9	10.5
92.5°	5.7	5.8	5.8	5.9	5.9	6.3	7.2	8.0	8.8	9.6	10.2
95°	24.9	21.5	18.1	14.6	11.2	9.5	9.7	9.7	9.8	9.9	10.5
97.5°	52.8	54.9	57.0	59.2	61.3	56.7	45.6	34.4	23.1	12.0	12.0
100°	74.1	75.9	77.7	79.5	81.4	75.3	61.5	47.6	33.7	19.9	18.1
102.5°	98.0	99.3	100.6	102.0	103.3	103.1	101.2	99.4	97.6	95.8	77.4
105°	136.0	136.7	137.2	137.8	138.4	138.9	139.5	140.0	140.5	141.0	141.9
107.5°	171.3	171.7	172.0	172.2	172.5	173.0	173.7	174.4	175.1	175.8	176.3
110°	195.2	195.5	195.8	196.1	196.4	196.9	197.5	198.0	198.7	199.3	199.5



TEST NUMBER: P332685-927

CATALOG NUMBER: SA4XXDIP-C1195D590U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	218.3	218.9	219.4	220.0	220.5	220.9	221.2	221.5	221.8	222.0	222.0
115°	254.0	254.3	254.5	254.8	255.2	255.2	255.2	255.1	254.9	254.8	255.1
117.5°	286.1	286.5	286.8	287.2	287.6	288.0	288.2	288.4	288.6	288.8	288.8
120°	307.8	308.2	308.6	309.0	309.3	309.5	309.4	309.3	309.2	309.1	309.3
122.5°	328.0	328.2	328.4	328.7	328.9	329.2	329.3	329.4	329.5	329.7	329.8
125°	357.0	357.4	357.8	358.2	358.6	358.7	358.5	358.3	358.1	357.9	358.2
127.5°	384.4	384.5	384.7	384.8	384.8	385.2	385.6	386.0	386.5	387.0	386.9
130°	402.2	402.3	402.3	402.5	402.6	402.7	403.1	403.4	403.7	404.0	404.1
132.5°	418.4	418.6	418.8	419.0	419.1	419.5	419.9	420.2	420.6	421.0	421.0
135°	442.8	442.8	442.7	442.5	442.4	442.6	443.0	443.4	443.8	444.2	444.4
137.5°	464.5	464.5	464.5	464.5	464.6	464.9	465.2	465.7	466.2	466.6	466.8
140°	478.6	478.7	479.0	479.1	479.3	479.5	479.7	480.0	480.1	480.4	480.6
142.5°	491.2	491.5	491.9	492.3	492.7	492.9	493.0	493.1	493.2	493.4	493.6
145°	510.6	511.0	511.2	511.5	511.8	512.0	512.0	512.0	512.0	512.0	512.1
147.5°	526.1	526.6	527.2	527.8	528.3	528.5	528.5	528.4	528.2	528.1	528.2
150°	537.3	537.7	538.1	538.5	538.9	539.1	538.9	538.8	538.8	538.6	538.6
152.5°	546.7	547.0	547.3	547.6	548.0	548.0	547.9	547.7	547.5	547.3	547.5
155°	559.9	560.0	560.1	560.2	560.3	560.2	559.9	559.6	559.3	559.0	559.4
157.5°	571.0	570.9	570.8	570.8	570.8	570.5	570.2	569.9	569.5	569.2	569.7
160°	577.5	577.2	576.9	576.6	576.3	576.1	576.0	575.9	575.8	575.7	576.3
162.5°	583.3	582.9	582.5	582.2	581.8	581.5	581.4	581.3	581.2	581.1	581.7
165°	590.6	590.1	589.6	589.1	588.6	588.4	588.4	588.4	588.4	588.4	589.1
167.5°	596.4	595.9	595.3	594.8	594.3	594.0	594.0	593.9	593.8	593.7	594.7
170°	599.7	599.0	598.4	597.9	597.2	597.0	597.1	597.1	597.3	597.4	598.2
172.5°	601.8	601.2	600.6	600.0	599.4	599.1	599.3	599.4	599.4	599.5	600.4
175°	604.2	603.6	602.9	602.4	601.7	601.5	601.6	601.7	601.8	601.9	602.8
177.5°	605.2	604.7	604.1	603.6	603.0	602.8	602.9	603.1	603.2	603.4	604.1
180°	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2



TEST NUMBER: P332685-927

CATALOG NUMBER: SA4XXDIP-C1195D590U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1573.0	1575.3	1577.6	1578.6	1578.3	1578.1	1577.9	1577.6
5°	1564.6	1567.7	1570.8	1572.1	1571.5	1571.0	1570.4	1569.8
7.5°	1547.2	1549.7	1552.1	1553.2	1552.9	1552.5	1552.2	1551.9
10°	1532.6	1534.9	1537.1	1537.9	1537.4	1536.8	1536.2	1535.6
12.5°	1514.8	1517.3	1519.8	1520.6	1519.8	1519.0	1518.2	1517.4
15°	1480.8	1482.6	1484.2	1484.6	1483.8	1483.0	1482.1	1481.3
17.5°	1442.2	1443.3	1444.3	1444.5	1444.0	1443.4	1442.9	1442.3
20°	1413.4	1414.2	1415.1	1415.2	1414.7	1414.1	1413.6	1412.9
22.5°	1383.4	1384.9	1386.4	1386.6	1385.7	1384.7	1383.6	1382.6
25°	1333.9	1334.1	1334.4	1334.0	1332.8	1331.7	1330.6	1329.5
27.5°	1278.3	1277.6	1276.9	1275.9	1274.5	1273.1	1271.7	1270.3
30°	1239.9	1238.8	1237.7	1236.4	1235.0	1233.7	1232.2	1230.8
32.5°	1201.0	1199.7	1198.3	1197.0	1195.6	1194.1	1192.8	1191.4
35°	1139.6	1137.7	1135.7	1134.0	1132.6	1131.2	1129.7	1128.4
37.5°	1075.2	1073.1	1071.0	1069.0	1067.1	1065.2	1063.4	1061.5
40°	1030.4	1027.5	1024.8	1022.6	1021.3	1019.9	1018.4	1017.0
42.5°	987.0	983.7	980.5	978.3	977.4	976.4	975.5	974.5
45°	919.8	916.7	913.6	911.6	910.8	909.9	909.1	908.2
47.5°	854.8	851.3	847.8	844.9	842.8	840.7	838.5	836.4
50°	809.3	805.3	801.5	798.6	796.9	795.3	793.5	791.9
52.5°	762.6	759.1	755.7	752.9	750.8	748.6	746.5	744.3
55°	694.0	690.7	687.3	684.8	683.1	681.4	679.7	678.0
57.5°	625.3	622.1	618.9	616.5	614.9	613.2	611.6	610.0
60°	578.1	575.6	573.1	571.1	569.7	568.2	566.9	565.5
62.5°	532.0	529.7	527.4	525.5	524.1	522.7	521.3	519.9
65°	464.9	462.2	459.3	457.2	455.8	454.4	453.0	451.6
67.5°	395.9	393.2	390.5	388.9	388.5	388.1	387.7	387.3
70°	352.2	350.0	347.7	346.2	345.3	344.5	343.6	342.8
72.5°	308.6	306.8	305.0	303.6	302.9	302.0	301.1	300.3
75°	245.7	244.5	243.4	242.7	242.5	242.2	241.9	241.6
77.5°	186.0	185.7	185.4	184.8	184.1	183.4	182.6	181.9
80°	148.1	147.6	147.0	146.6	146.3	146.0	145.8	145.4
82.5°	114.2	113.8	113.5	113.2	112.9	112.6	112.3	112.1
85°	65.8	65.8	65.8	65.7	65.4	65.0	64.8	64.5
87.5°	26.5	26.6	26.8	26.9	26.9	26.9	26.9	27.0
90°	11.2	11.7	12.4	12.8	13.0	13.2	13.4	13.5
92.5°	10.8	11.4	12.0	12.3	12.4	12.4	12.4	12.4
95°	11.2	11.7	12.4	12.7	12.8	12.9	13.0	13.1
97.5°	12.0	12.1	12.2	12.3	12.4	12.4	12.5	12.7
100°	16.5	14.7	13.1	12.3	12.4	12.4	12.5	12.7
102.5°	58.9	40.6	22.1	12.9	13.0	13.0	13.0	13.0
105°	142.8	143.7	144.6	143.2	139.7	136.0	132.4	128.8
107.5°	176.7	177.1	177.5	177.9	178.3	178.7	179.1	179.5
110°	199.7	199.9	200.1	200.3	200.7	200.9	201.2	201.5



TEST NUMBER: P332685-927

CATALOG NUMBER: SA4XXDIP-C1195D590U927-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	222.0	222.0	221.9	222.0	222.4	222.8	223.2	223.6
115°	255.2	255.5	255.6	255.8	255.8	255.8	255.8	255.8
117.5°	288.8	288.8	288.7	288.7	288.6	288.6	288.5	288.5
120°	309.5	309.7	309.9	309.9	309.7	309.5	309.3	309.1
122.5°	329.9	330.0	330.2	330.1	329.9	329.7	329.5	329.3
125°	358.5	358.8	359.1	359.3	359.4	359.5	359.6	359.7
127.5°	386.9	386.8	386.7	386.7	386.6	386.5	386.4	386.3
130°	404.2	404.3	404.4	404.4	404.4	404.4	404.4	404.4
132.5°	421.2	421.3	421.4	421.4	421.3	421.2	421.1	421.0
135°	444.6	444.8	445.0	445.2	445.4	445.6	445.8	446.0
137.5°	467.1	467.3	467.5	467.5	467.5	467.5	467.4	467.3
140°	480.9	481.3	481.6	481.7	481.9	482.0	482.0	482.1
142.5°	493.8	494.0	494.2	494.4	494.4	494.4	494.4	494.5
145°	512.1	512.3	512.4	512.5	512.7	512.9	513.2	513.3
147.5°	528.3	528.4	528.5	528.5	528.7	528.8	528.9	528.9
150°	538.6	538.6	538.6	538.7	538.8	538.9	539.0	539.1
152.5°	547.6	547.8	548.0	548.0	548.0	547.9	547.8	547.8
155°	559.8	560.2	560.5	560.6	560.3	560.0	559.8	559.4
157.5°	570.2	570.8	571.2	571.2	570.8	570.2	569.7	569.2
160°	576.9	577.5	578.1	578.1	577.5	576.9	576.3	575.7
162.5°	582.3	582.9	583.5	583.5	582.8	582.1	581.5	580.7
165°	589.9	590.7	591.6	591.5	590.6	589.7	588.8	587.9
167.5°	595.6	596.4	597.3	597.2	596.3	595.2	594.2	593.3
170°	599.0	599.8	600.6	600.5	599.5	598.5	597.5	596.5
172.5°	601.2	602.0	602.8	602.6	601.6	600.5	599.4	598.3
175°	603.7	604.6	605.5	605.4	604.2	602.9	601.7	600.6
177.5°	604.8	605.4	606.0	605.9	604.9	604.0	602.9	602.0
180°	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2

(END OF REPORT)