

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: P332696-930

Luminaire Tested: **SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332696-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

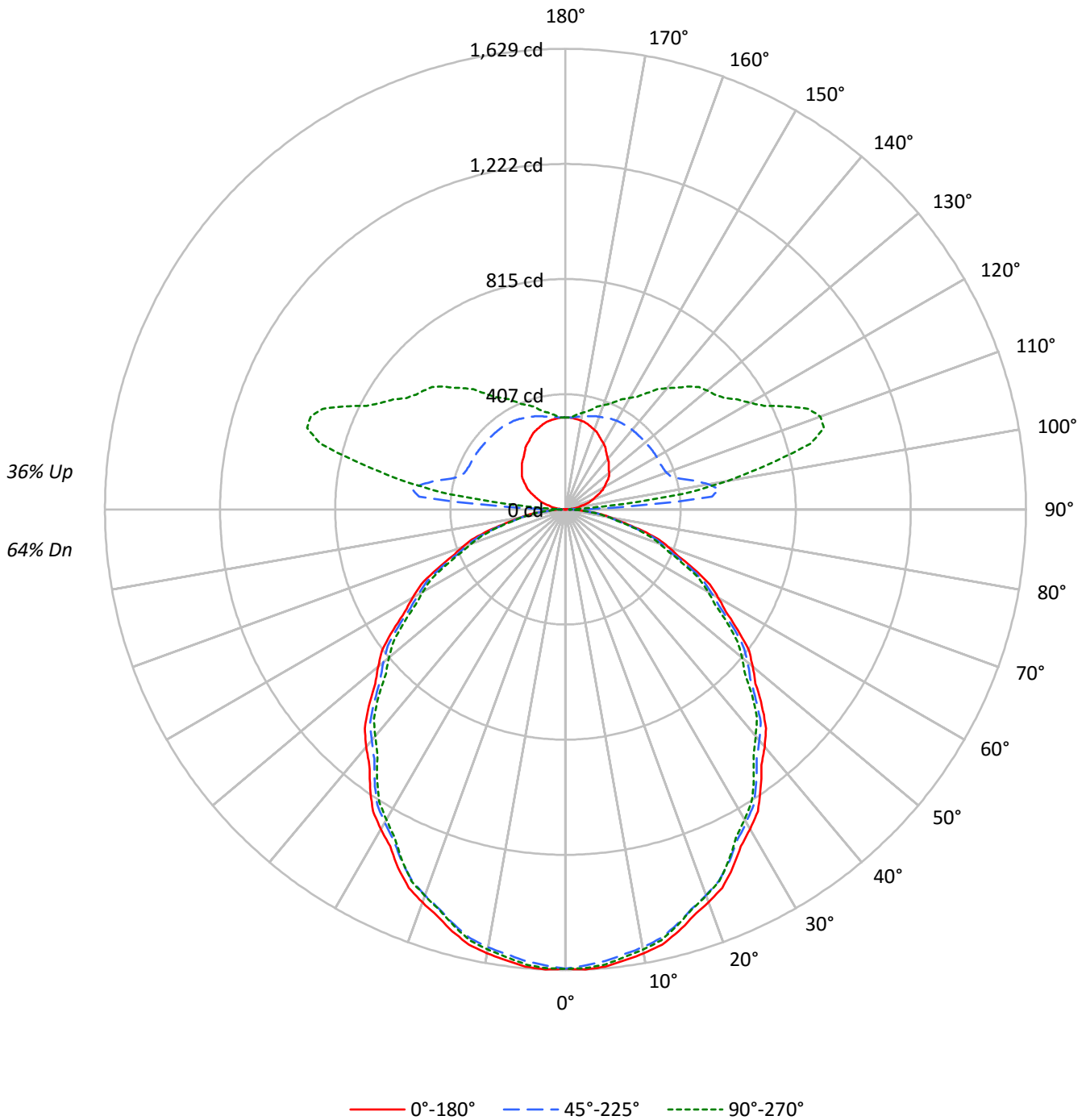
Lumens per Lamp: N/A
Luminaire Lumens: 6531.1 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 60.7
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: P332696-930
CATALOG NUMBER: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P332696-930

CATALOG NUMBER: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4

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	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	101	96	92	89	95	91	87	84	80	77	75	70	68	66	61	59	58	54
2	92	84	78	73	86	79	74	69	70	66	62	61	58	55	54	51	49	45
3	84	74	66	60	78	70	63	58	62	56	52	54	50	47	47	44	42	38
4	77	66	57	51	72	62	55	49	55	49	44	48	44	40	42	39	36	33
5	70	59	50	44	66	55	48	42	49	43	38	44	39	35	38	34	31	28
6	65	53	44	38	61	50	42	37	44	38	34	39	34	31	35	31	28	25
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	32	28	25	22
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	25	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	25	21	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13116	13116	13116
5°	13156	12998	13092
10°	13073	12892	12956
15°	12915	12709	12741
20°	12706	12482	12493
25°	12466	12222	12188
30°	12172	11918	11808
35°	11869	11599	11445
40°	11552	11236	11031
45°	11222	10880	10671
50°	10857	10562	10236
55°	10463	10151	9821
60°	10069	9689	9397
65°	9626	9251	8879
70°	9128	8665	8327
75°	8366	7960	7757
80°	7443	7141	6960
85°	6512	6271	6150



TEST NUMBER: P332696-930

CATALOG NUMBER: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.0	2.3
10°-20°	431.1	6.6
20°-30°	634.5	9.7
30°-40°	737.7	11.3
40°-50°	737.7	11.3
50°-60°	645.3	9.9
60°-70°	479.2	7.3
70°-80°	272.3	4.2
80°-90°	80.4	1.2
90°-100°	234.4	3.6
100°-110°	487.8	7.5
110°-120°	436.9	6.7
120°-130°	367.5	5.6
130°-140°	306.4	4.7
140°-150°	234.1	3.6
150°-160°	164.6	2.5
160°-170°	96.8	1.5
170°-180°	31.5	0.5
0°-30°	1218.6	18.7
0°-40°	1956.3	30.0
0°-60°	3339.3	51.1
0°-90°	4171.1	63.9
90°-120°	1159.1	17.7
90°-150°	2067.1	31.7
90°-180°	2360.0	36.1
0°-180°	6531.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1623	1618	1604	1617	1616	154
15°	1545	1539	1521	1528	1524	435
25°	1400	1390	1372	1373	1368	644
35°	1204	1195	1177	1168	1161	753
45°	983	973	953	939	935	757
55°	743	739	721	706	698	666
65°	504	497	484	472	465	499
75°	268	262	255	250	249	285
85°	70	70	68	68	66	77
90°	1	5	12	13	13	5
95°	21	66	520	257	156	24
105°	75	108	418	900	897	80
115°	131	165	373	716	861	130
125°	183	217	371	610	687	163
135°	217	259	368	541	615	168
145°	250	287	366	456	502	157
155°	285	308	356	403	420	131
165°	310	320	341	361	367	88
175°	324	324	327	332	330	31
180°	324	324	324	324	324	



TEST NUMBER: P332696-930

CATALOG NUMBER: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1628.9	1628.2	1627.5	1626.8	1626.1	1624.5	1622.0	1619.4	1616.9	1614.4	1616.7
5°	1623.4	1622.3	1621.1	1620.0	1618.9	1616.7	1613.5	1610.3	1607.1	1603.9	1607.1
7.5°	1608.3	1607.2	1606.1	1604.8	1603.7	1601.4	1597.8	1594.3	1590.8	1587.2	1589.8
10°	1594.8	1593.7	1592.5	1591.3	1590.2	1587.7	1584.0	1580.2	1576.5	1572.7	1575.0
12.5°	1577.1	1576.0	1574.8	1573.6	1572.5	1569.9	1565.9	1562.0	1558.0	1554.0	1556.5
15°	1545.3	1544.2	1543.0	1541.9	1540.7	1538.0	1533.6	1529.3	1524.9	1520.6	1522.3
17.5°	1507.1	1505.6	1504.1	1502.8	1501.3	1498.5	1494.4	1490.3	1486.2	1482.1	1483.2
20°	1479.0	1477.5	1476.0	1474.6	1473.2	1470.2	1465.9	1461.6	1457.3	1452.9	1453.8
22.5°	1448.7	1446.8	1445.0	1443.0	1441.1	1437.9	1433.6	1429.3	1425.0	1420.6	1422.2
25°	1399.5	1397.5	1395.5	1393.4	1391.4	1388.4	1384.3	1380.3	1376.2	1372.1	1372.5
27.5°	1343.3	1341.2	1339.1	1337.0	1335.0	1332.0	1328.3	1324.5	1320.8	1317.0	1316.3
30°	1305.8	1303.5	1301.1	1298.9	1296.6	1293.5	1289.7	1286.0	1282.2	1278.5	1277.3
32.5°	1266.2	1264.1	1262.1	1260.0	1257.8	1254.8	1250.8	1246.8	1242.8	1238.8	1237.5
35°	1204.3	1202.2	1200.2	1198.2	1196.1	1193.1	1189.0	1185.0	1181.0	1176.9	1174.8
37.5°	1138.9	1137.0	1135.2	1133.3	1131.5	1128.4	1124.1	1119.7	1115.3	1111.0	1108.8
40°	1096.2	1093.9	1091.5	1089.2	1087.0	1083.6	1079.3	1074.9	1070.6	1066.2	1063.3
42.5°	1050.4	1049.0	1047.6	1046.2	1044.8	1041.7	1036.9	1032.1	1027.3	1022.5	1019.1
45°	982.9	980.9	978.8	976.8	974.9	971.5	966.9	962.2	957.6	953.0	949.8
47.5°	912.3	910.9	909.5	908.2	906.8	904.0	899.7	895.4	891.1	886.9	883.3
50°	864.5	863.3	862.1	861.0	859.8	857.2	853.1	849.1	845.1	841.0	837.0
52.5°	817.6	816.2	814.8	813.4	812.0	809.2	804.9	800.6	796.4	792.1	788.5
55°	743.4	742.5	741.7	740.8	739.9	737.4	733.4	729.4	725.3	721.2	717.8
57.5°	672.5	671.6	670.6	669.6	668.6	666.1	662.1	658.1	654.1	650.1	646.9
60°	623.6	622.2	620.7	619.3	617.8	615.2	611.5	607.7	603.9	600.1	597.5
62.5°	575.7	574.5	573.2	572.0	570.9	568.3	564.3	560.3	556.3	552.3	549.9
65°	503.9	502.4	500.9	499.5	498.1	495.9	493.0	490.1	487.2	484.3	481.4
67.5°	431.5	430.2	428.8	427.5	426.2	424.0	421.3	418.5	415.7	412.9	410.2
70°	386.7	384.7	382.6	380.6	378.5	376.4	374.1	371.8	369.4	367.1	364.8
72.5°	338.8	336.7	334.7	332.6	330.7	328.7	326.9	325.0	323.2	321.3	319.4
75°	268.2	266.8	265.3	263.8	262.4	261.0	259.5	258.0	256.7	255.2	254.0
77.5°	200.7	200.1	199.5	198.9	198.2	197.2	196.0	194.7	193.5	192.2	191.8
80°	160.1	159.2	158.4	157.5	156.7	156.0	155.4	154.7	154.2	153.6	153.0
82.5°	120.6	120.2	119.8	119.4	119.0	118.7	118.5	118.5	118.3	118.2	117.9
85°	70.3	70.3	70.3	70.3	70.3	70.0	69.5	68.9	68.2	67.7	67.7
87.5°	27.2	27.2	27.4	27.3	27.1	26.9	27.5	27.2	27.2	27.3	27.1
90°	0.7	1.9	3.8	4.5	5.1	5.1	8.9	8.9	10.2	11.5	10.8
92.5°	7.3	10.6	16.6	24.4	33.7	46.9	79.3	128.7	177.0	202.2	168.4
95°	21.0	22.9	29.4	37.6	52.9	79.7	135.2	239.7	392.1	519.6	534.3
97.5°	37.7	37.7	43.2	50.9	64.0	86.4	129.1	215.5	367.0	547.2	671.2
100°	48.4	48.4	52.9	60.6	72.6	93.1	130.7	202.8	332.8	512.6	675.7
102.5°	58.6	59.7	63.6	70.8	82.3	101.7	135.7	199.2	309.8	469.2	637.5
105°	74.6	76.5	79.7	87.3	98.8	117.3	147.9	200.8	290.1	418.2	568.0
107.5°	92.2	93.4	96.6	104.8	115.8	134.0	162.1	210.3	286.5	389.6	511.9
110°	104.0	105.2	108.4	116.0	127.5	144.7	172.8	217.4	287.5	379.9	483.9



TEST NUMBER: P332696-930

CATALOG NUMBER: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	115.1	116.4	120.1	127.3	138.7	156.0	183.0	225.0	290.6	375.4	468.1
115°	131.3	133.2	137.7	144.1	156.2	173.4	198.9	237.2	296.4	372.9	453.2
117.5°	148.1	149.9	153.9	160.9	172.3	190.1	214.3	249.5	302.7	372.3	446.6
120°	159.4	160.6	165.1	172.1	183.0	200.8	225.0	258.2	307.3	372.3	443.0
122.5°	169.6	170.9	175.3	181.8	193.6	211.0	235.2	266.4	311.9	371.8	439.0
125°	183.0	185.5	189.3	196.3	208.5	226.3	249.2	278.6	318.8	371.0	432.2
127.5°	194.9	196.9	201.5	209.5	222.1	240.1	262.3	289.2	324.2	369.7	423.1
130°	201.5	204.0	209.1	218.7	230.8	249.2	270.9	295.8	328.3	369.1	417.6
132.5°	208.1	210.1	216.8	225.8	239.0	256.4	278.1	302.4	331.9	368.6	412.5
135°	217.4	220.0	226.3	237.2	250.5	267.1	288.1	311.1	337.2	367.9	404.8
137.5°	226.7	229.1	236.1	246.5	260.3	276.1	295.8	317.2	340.4	367.7	398.2
140°	233.3	235.2	242.2	253.1	266.4	281.8	300.9	321.3	343.0	367.2	394.6
142.5°	240.4	242.4	248.9	259.2	272.1	286.9	305.5	324.3	345.0	367.2	391.6
145°	250.5	252.4	258.9	267.7	279.9	293.9	310.5	327.7	346.2	365.9	386.3
147.5°	261.9	262.5	268.2	277.3	287.4	300.0	315.6	330.6	346.8	363.6	381.6
150°	269.0	269.7	274.8	282.4	292.0	304.1	318.1	332.2	346.8	362.1	378.1
152.5°	275.7	275.8	280.9	288.0	296.6	307.7	320.2	333.1	345.8	359.5	374.0
155°	284.9	285.6	289.4	295.8	302.8	312.3	323.2	334.0	344.2	355.7	367.9
157.5°	294.0	294.0	297.6	302.6	308.7	316.2	325.4	334.0	342.6	351.8	361.6
160°	299.6	299.6	302.1	306.6	311.8	318.8	326.4	334.0	341.0	348.7	357.0
162.5°	304.8	304.2	306.2	310.2	314.8	320.2	327.4	334.0	339.6	345.7	352.9
165°	310.5	310.5	311.8	315.0	318.1	322.0	327.7	332.8	336.6	341.0	346.2
167.5°	316.2	315.6	316.2	318.6	320.4	323.3	327.6	331.3	333.5	336.5	340.1
170°	318.8	318.1	318.8	320.7	322.0	323.8	327.0	330.2	331.5	333.4	336.0
172.5°	321.3	320.7	320.8	322.2	322.9	324.3	326.5	329.2	329.5	330.4	332.4
175°	323.8	323.2	323.2	323.8	324.5	324.5	325.8	327.7	327.0	327.0	328.3
177.5°	325.0	324.5	324.0	324.5	324.5	324.5	325.0	326.0	325.0	325.0	325.5
180°	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5



TEST NUMBER: P332696-930

CATALOG NUMBER: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1618.9	1621.3	1623.6	1624.6	1624.4	1624.2	1623.9	1623.7
5°	1610.3	1613.5	1616.7	1618.0	1617.4	1616.8	1616.2	1615.6
7.5°	1592.4	1594.9	1597.4	1598.6	1598.2	1597.8	1597.5	1597.2
10°	1577.3	1579.6	1581.9	1582.8	1582.3	1581.7	1581.0	1580.5
12.5°	1559.0	1561.5	1564.2	1565.0	1564.2	1563.3	1562.5	1561.7
15°	1524.0	1525.8	1527.5	1528.0	1527.1	1526.2	1525.3	1524.5
17.5°	1484.3	1485.4	1486.5	1486.7	1486.1	1485.6	1485.0	1484.4
20°	1454.7	1455.5	1456.4	1456.5	1456.0	1455.4	1454.8	1454.2
22.5°	1423.8	1425.3	1426.9	1427.1	1426.1	1425.1	1424.0	1422.9
25°	1372.8	1373.0	1373.4	1372.9	1371.7	1370.6	1369.5	1368.3
27.5°	1315.6	1314.9	1314.2	1313.1	1311.7	1310.3	1308.8	1307.3
30°	1276.1	1275.0	1273.8	1272.5	1271.1	1269.7	1268.2	1266.7
32.5°	1236.1	1234.7	1233.3	1231.9	1230.4	1229.0	1227.6	1226.1
35°	1172.9	1170.9	1168.8	1167.1	1165.6	1164.2	1162.7	1161.3
37.5°	1106.6	1104.4	1102.2	1100.2	1098.3	1096.3	1094.5	1092.5
40°	1060.5	1057.5	1054.7	1052.5	1051.1	1049.6	1048.1	1046.7
42.5°	1015.8	1012.4	1009.1	1006.9	1005.9	1004.9	1004.0	1003.0
45°	946.6	943.5	940.3	938.2	937.3	936.5	935.6	934.7
47.5°	879.7	876.1	872.5	869.6	867.4	865.2	863.0	860.8
50°	832.9	828.8	824.8	821.9	820.2	818.5	816.7	815.0
52.5°	784.9	781.3	777.7	774.9	772.7	770.5	768.3	766.1
55°	714.3	710.9	707.4	704.7	703.0	701.3	699.5	697.8
57.5°	643.6	640.3	637.0	634.5	632.8	631.1	629.4	627.8
60°	594.9	592.4	589.8	587.7	586.3	584.8	583.4	582.0
62.5°	547.5	545.1	542.7	540.9	539.4	537.9	536.5	535.1
65°	478.5	475.6	472.7	470.6	469.1	467.7	466.2	464.8
67.5°	407.4	404.6	401.9	400.2	399.8	399.4	399.0	398.6
70°	362.5	360.2	357.8	356.3	355.4	354.6	353.7	352.8
72.5°	317.6	315.8	313.9	312.5	311.7	310.8	309.9	309.1
75°	252.8	251.7	250.5	249.8	249.6	249.2	248.9	248.7
77.5°	191.4	191.1	190.8	190.2	189.5	188.7	187.9	187.2
80°	152.5	151.9	151.3	150.9	150.6	150.3	150.0	149.7
82.5°	117.5	117.2	116.8	116.5	116.2	115.9	115.6	115.4
85°	67.7	67.7	67.7	67.6	67.3	66.9	66.7	66.4
87.5°	27.3	27.4	27.6	27.6	27.6	27.8	27.6	27.6
90°	11.5	12.1	12.7	12.7	13.4	14.0	13.4	13.4
92.5°	125.2	94.2	75.0	62.2	54.7	51.3	49.1	49.1
95°	472.4	373.6	288.1	226.3	195.1	175.3	163.9	155.6
97.5°	697.9	661.2	598.8	532.3	486.6	448.2	429.0	415.8
100°	768.8	781.5	750.3	703.2	647.7	608.8	589.7	584.6
102.5°	765.2	828.5	837.6	817.9	783.9	755.7	735.6	731.5
105°	714.0	824.3	887.4	913.5	914.8	909.7	900.8	897.0
107.5°	641.2	758.6	847.5	904.3	935.9	950.4	956.8	958.4
110°	597.4	707.6	800.1	870.2	915.4	942.2	953.7	959.4



TEST NUMBER: P332696-930

CATALOG NUMBER: SA4XXDIP-C1195D810U930-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	565.2	662.8	750.1	820.2	871.6	904.0	920.1	929.4
115°	533.0	611.4	685.9	747.1	797.5	835.8	856.1	861.3
117.5°	517.1	582.0	640.7	692.6	735.6	767.7	788.3	792.3
120°	510.0	569.3	620.3	665.5	701.9	729.9	746.5	753.5
122.5°	503.9	561.1	607.6	647.2	677.9	701.9	715.9	722.9
125°	493.4	548.3	592.2	627.3	652.8	671.3	683.4	687.2
127.5°	480.7	533.0	576.9	610.3	635.9	652.3	662.5	666.3
130°	470.5	520.8	564.2	597.9	624.1	640.1	650.3	654.1
132.5°	459.7	507.0	549.4	583.2	608.8	626.8	636.5	640.3
135°	445.0	486.4	525.3	557.2	582.7	600.5	610.7	614.6
137.5°	431.6	466.7	499.5	528.2	552.0	569.6	578.0	582.7
140°	424.0	453.9	482.6	509.4	531.7	545.7	554.6	559.7
142.5°	416.8	443.2	467.8	491.0	510.8	523.7	531.7	535.2
145°	406.8	428.4	447.5	465.4	481.4	492.1	498.6	501.7
147.5°	398.4	415.6	431.0	445.0	456.7	466.0	470.8	472.0
150°	393.3	408.0	420.8	432.2	442.5	450.7	454.5	455.2
152.5°	387.8	400.3	412.1	421.5	430.2	436.9	439.2	439.9
155°	379.3	389.6	399.1	406.8	413.1	418.2	420.1	420.1
157.5°	370.2	378.8	386.9	393.0	397.8	401.6	402.8	402.8
160°	364.7	371.7	378.7	383.8	387.6	391.4	392.1	392.1
162.5°	359.1	365.0	370.6	375.1	377.9	381.7	382.4	381.9
165°	351.2	355.1	359.5	362.7	365.3	367.9	367.2	366.6
167.5°	343.7	346.7	350.3	352.1	353.4	355.1	355.0	354.4
170°	339.2	341.0	343.6	345.5	346.8	347.4	346.8	346.8
172.5°	335.1	336.5	338.0	339.4	340.1	340.8	340.1	339.2
175°	329.6	330.2	331.5	331.5	331.5	332.8	331.5	330.2
177.5°	326.0	326.5	326.5	327.0	326.5	327.0	326.0	325.0
180°	324.5	324.5	324.5	324.5	324.5	324.5	324.5	324.5

(END OF REPORT)