

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: P332694-930

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

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332694-930
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-C1195D810U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6808.3 lumens
Efficiency: N/A
Efficacy: 112.2 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

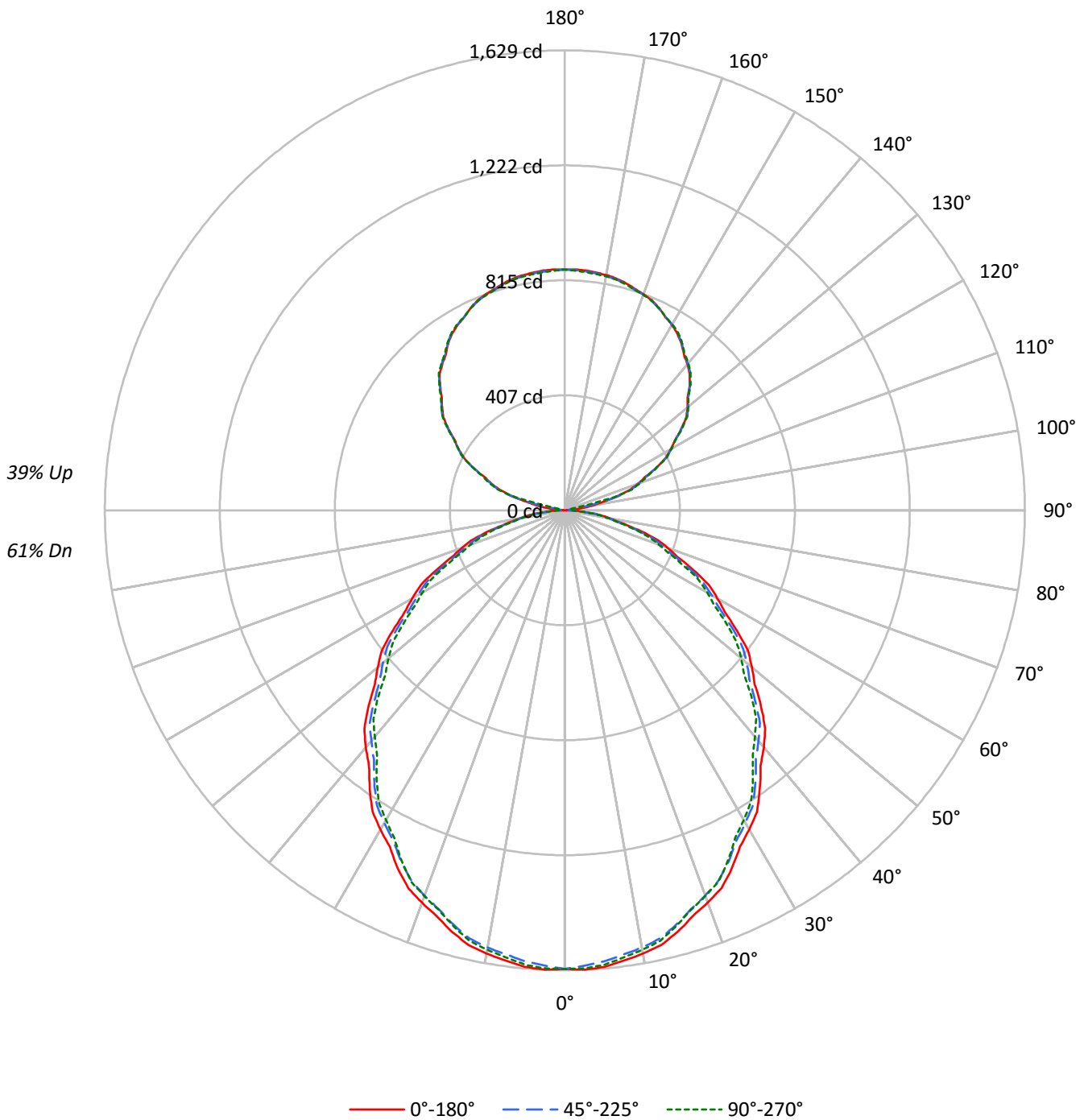
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	66	66	66	61
1	100	96	92	88	94	90	86	83	79	76	74	68	66	65	59	57	56	52
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	62	57	61	56	51	53	49	46	46	43	40	37
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	34	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	56	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17	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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.0	2.2
10°-20°	431.1	6.3
20°-30°	634.5	9.3
30°-40°	737.7	10.8
40°-50°	737.7	10.8
50°-60°	645.3	9.5
60°-70°	479.2	7.0
70°-80°	272.3	4.0
80°-90°	81.0	1.2
90°-100°	29.1	0.4
100°-110°	185.9	2.7
110°-120°	355.6	5.2
120°-130°	451.4	6.6
130°-140°	482.9	7.1
140°-150°	451.6	6.6
150°-160°	364.2	5.3
160°-170°	234.9	3.4
170°-180°	81.0	1.2
0°-30°	1218.6	17.9
0°-40°	1956.3	28.7
0°-60°	3339.3	49.0
0°-90°	4171.8	61.3
90°-120°	570.6	8.4
90°-150°	1956.4	28.7
90°-180°	2636.0	38.7
0°-180°	6808.3	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°	2	9	14	18	19	5
95°	35	15	14	18	18	45
105°	192	196	199	203	182	201
115°	358	360	360	361	361	352
125°	504	506	505	507	507	449
135°	625	624	627	628	629	481
145°	720	722	722	723	724	450
155°	790	790	789	791	789	364
165°	833	830	830	834	829	235
175°	852	849	849	854	847	81
180°	852	852	852	852	852	



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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°	27.5	27.6	27.6	27.7	27.8	27.8	27.8	27.8	27.8	27.8	28.0
90°	1.9	3.5	5.1	6.6	8.2	9.5	10.6	11.7	12.9	14.0	14.8
92.5°	8.1	8.2	8.2	8.3	8.4	9.0	10.1	11.3	12.4	13.5	14.3
95°	35.1	30.2	25.4	20.6	15.8	13.5	13.6	13.8	13.9	14.0	14.8
97.5°	74.4	77.5	80.5	83.5	86.5	80.1	64.2	48.4	32.6	16.8	16.9
100°	104.5	107.1	109.7	112.2	114.7	106.2	86.7	67.2	47.6	28.0	25.6
102.5°	138.2	140.1	141.9	143.8	145.7	145.4	142.8	140.2	137.7	135.2	109.2
105°	191.8	192.7	193.6	194.4	195.3	196.1	196.7	197.5	198.2	198.9	200.2
107.5°	241.7	242.1	242.6	243.0	243.4	244.1	245.1	246.1	247.0	248.0	248.6
110°	275.4	275.8	276.2	276.6	277.1	277.7	278.6	279.4	280.3	281.1	281.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.0	308.8	309.6	310.3	311.1	311.7	312.1	312.4	312.8	313.2	313.2
115°	358.2	358.7	359.1	359.5	360.0	360.1	360.0	359.8	359.7	359.5	359.8
117.5°	403.5	404.1	404.6	405.2	405.8	406.3	406.5	406.8	407.2	407.5	407.4
120°	434.1	434.7	435.3	435.9	436.3	436.6	436.4	436.3	436.2	436.0	436.3
122.5°	462.7	463.0	463.3	463.7	464.1	464.3	464.5	464.7	464.9	465.1	465.3
125°	503.6	504.2	504.8	505.3	505.9	506.0	505.7	505.5	505.2	504.9	505.3
127.5°	542.3	542.5	542.7	542.8	542.9	543.3	544.0	544.6	545.3	545.9	545.8
130°	567.4	567.5	567.6	567.8	567.9	568.2	568.6	569.1	569.5	569.9	570.1
132.5°	590.3	590.5	590.8	591.1	591.3	591.7	592.2	592.8	593.3	593.9	594.0
135°	624.8	624.6	624.4	624.3	624.2	624.4	624.9	625.5	626.1	626.6	626.9
137.5°	655.2	655.3	655.3	655.3	655.4	655.7	656.4	657.0	657.6	658.3	658.6
140°	675.1	675.4	675.6	676.0	676.2	676.5	676.8	677.1	677.4	677.6	678.1
142.5°	692.9	693.4	694.0	694.5	695.0	695.3	695.5	695.7	695.9	696.0	696.3
145°	720.3	720.8	721.2	721.6	722.0	722.3	722.3	722.3	722.3	722.3	722.4
147.5°	742.2	743.0	743.7	744.5	745.3	745.7	745.5	745.3	745.2	745.1	745.2
150°	758.0	758.6	759.1	759.7	760.2	760.4	760.3	760.2	760.0	759.9	759.9
152.5°	771.2	771.7	772.1	772.6	773.1	773.1	772.9	772.7	772.3	772.1	772.3
155°	789.9	789.9	790.1	790.3	790.4	790.3	789.9	789.4	789.0	788.6	789.1
157.5°	805.5	805.4	805.4	805.3	805.2	804.9	804.4	804.0	803.5	803.0	803.7
160°	814.7	814.2	813.8	813.4	813.0	812.7	812.6	812.4	812.3	812.1	813.0
162.5°	822.9	822.3	821.7	821.3	820.7	820.4	820.2	820.1	819.9	819.8	820.7
165°	833.2	832.5	831.8	831.0	830.4	830.0	830.0	830.0	830.0	830.0	831.1
167.5°	841.3	840.6	839.8	839.1	838.4	838.0	837.9	837.8	837.7	837.6	838.9
170°	846.0	845.1	844.2	843.3	842.5	842.2	842.3	842.4	842.6	842.8	843.8
172.5°	849.0	848.2	847.3	846.4	845.6	845.2	845.4	845.5	845.6	845.8	846.9
175°	852.3	851.4	850.6	849.8	848.9	848.6	848.7	848.8	849.0	849.1	850.4
177.5°	853.9	853.0	852.2	851.4	850.7	850.4	850.6	850.8	851.1	851.3	852.2
180°	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3



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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°	28.1	28.3	28.5	28.6	28.6	28.7	28.8	28.9
90°	15.7	16.6	17.4	18.0	18.3	18.6	18.8	19.2
92.5°	15.2	16.1	16.9	17.4	17.4	17.4	17.5	17.6
95°	15.7	16.6	17.4	17.9	18.1	18.2	18.3	18.5
97.5°	17.0	17.1	17.2	17.3	17.4	17.5	17.7	17.9
100°	23.2	20.8	18.4	17.3	17.4	17.5	17.7	17.9
102.5°	83.2	57.2	31.2	18.3	18.3	18.3	18.3	18.3
105°	201.5	202.7	204.0	202.1	197.0	191.8	186.8	181.6
107.5°	249.2	249.8	250.5	251.0	251.6	252.1	252.7	253.2
110°	281.7	282.0	282.3	282.6	283.1	283.5	283.9	284.3



TEST NUMBER: P332694-930

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.2	313.1	313.0	313.2	313.8	314.4	314.9	315.4
115°	360.1	360.4	360.7	360.9	360.9	360.9	360.9	360.9
117.5°	407.3	407.3	407.2	407.2	407.2	407.1	407.0	407.0
120°	436.6	436.9	437.2	437.2	436.9	436.6	436.3	436.0
122.5°	465.5	465.6	465.8	465.7	465.5	465.1	464.9	464.6
125°	505.7	506.1	506.5	506.9	507.0	507.1	507.3	507.4
127.5°	545.8	545.7	545.6	545.5	545.4	545.3	545.2	545.0
130°	570.2	570.3	570.5	570.5	570.5	570.5	570.5	570.5
132.5°	594.2	594.3	594.4	594.4	594.4	594.2	594.1	594.0
135°	627.2	627.5	627.8	628.0	628.4	628.6	628.9	629.2
137.5°	658.8	659.2	659.5	659.6	659.5	659.4	659.3	659.3
140°	678.5	678.9	679.3	679.6	679.8	679.9	680.0	680.2
142.5°	696.6	696.9	697.2	697.4	697.4	697.5	697.5	697.5
145°	722.5	722.7	722.8	723.0	723.3	723.6	723.9	724.1
147.5°	745.3	745.4	745.5	745.7	745.8	745.9	746.1	746.2
150°	759.9	759.9	759.9	759.9	760.1	760.2	760.3	760.5
152.5°	772.6	772.8	773.0	773.1	773.0	772.9	772.8	772.7
155°	789.7	790.3	790.8	790.9	790.4	790.0	789.6	789.2
157.5°	804.5	805.2	805.9	805.9	805.2	804.5	803.7	803.0
160°	813.8	814.7	815.5	815.5	814.7	813.8	813.0	812.1
162.5°	821.5	822.3	823.2	823.1	822.1	821.2	820.3	819.3
165°	832.3	833.4	834.5	834.5	833.2	831.9	830.6	829.3
167.5°	840.2	841.4	842.6	842.5	841.1	839.7	838.3	836.9
170°	845.0	846.1	847.3	847.1	845.7	844.3	842.9	841.5
172.5°	848.1	849.2	850.4	850.1	848.6	847.1	845.5	844.0
175°	851.7	853.0	854.2	854.0	852.3	850.6	848.9	847.2
177.5°	853.1	854.0	854.9	854.7	853.3	852.0	850.6	849.2
180°	852.3	852.3	852.3	852.3	852.3	852.3	852.3	852.3

(END OF REPORT)