

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: P332677-930

Luminaire Tested: **SA4XXDIP-C1195D365U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332677-930
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-C1195D365U930-4F0-1E-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

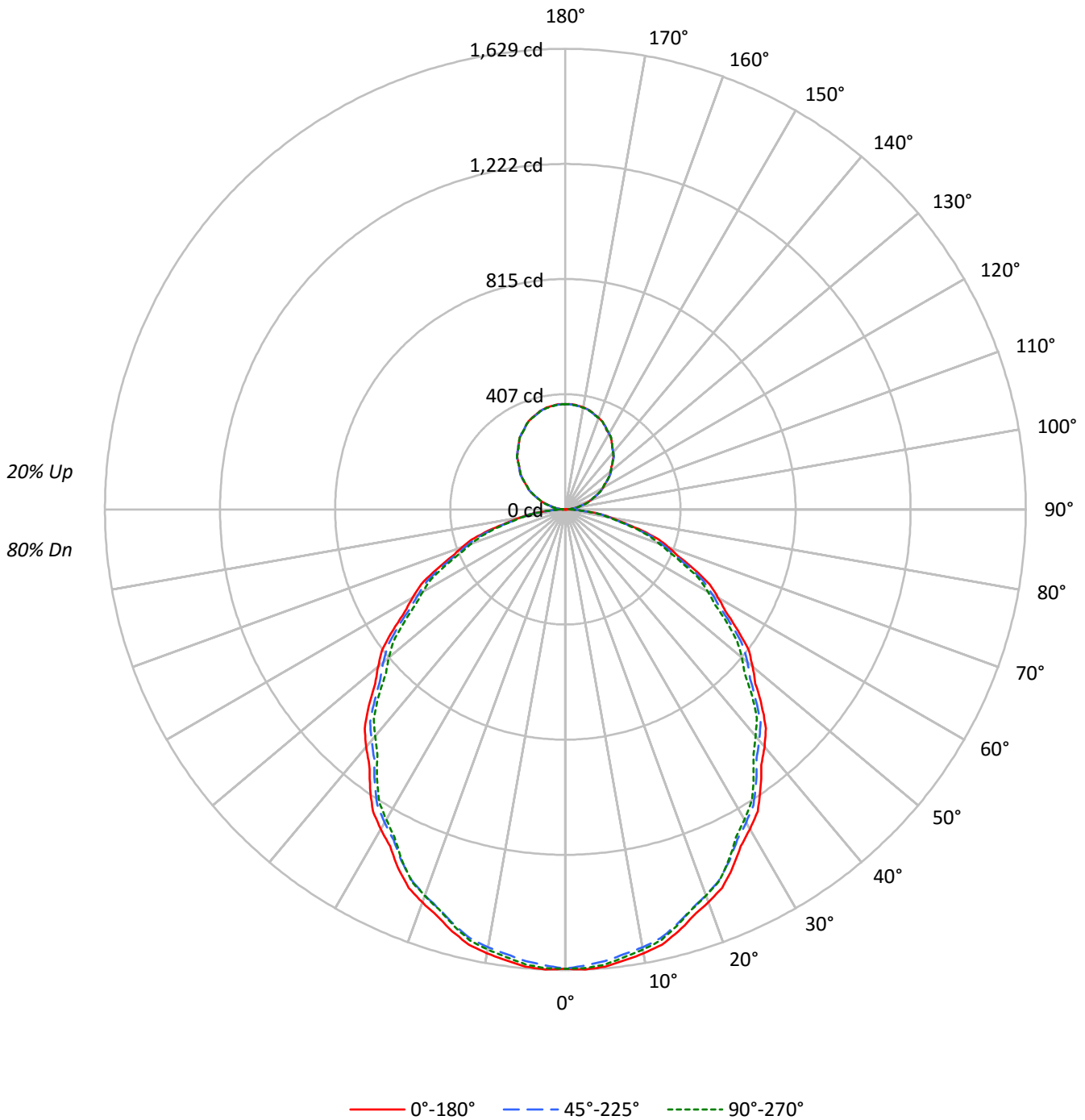
Lumens per Lamp: N/A
Luminaire Lumens: 5204.0 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 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°	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	2.9
10°-20°	431.1	8.3
20°-30°	634.5	12.2
30°-40°	737.7	14.2
40°-50°	737.7	14.2
50°-60°	645.3	12.4
60°-70°	479.2	9.2
70°-80°	272.3	5.2
80°-90°	79.7	1.5
90°-100°	24.6	0.5
100°-110°	72.8	1.4
110°-120°	123.5	2.4
120°-130°	162.9	3.1
130°-140°	182.9	3.5
140°-150°	179.8	3.5
150°-160°	151.2	2.9
160°-170°	100.6	1.9
170°-180°	35.2	0.7
0°-30°	1218.6	23.4
0°-40°	1956.3	37.6
0°-60°	3339.3	64.2
0°-90°	4170.5	80.1
90°-120°	220.9	4.2
90°-150°	746.5	14.3
90°-180°	1034.0	19.9
0°-180°	5204.0	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	4	6	8	9	5
95°	17	20	22	23	23	19
105°	67	67	69	69	70	71
115°	126	126	125	125	124	124
125°	183	183	183	182	182	163
135°	236	238	238	237	236	182
145°	287	288	288	288	287	179
155°	328	328	328	329	328	151
165°	358	357	356	358	357	101
175°	372	371	370	372	370	35
180°	372	372	372	372	372	



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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°	27.2	27.1	27.1	27.0	26.9	26.7	26.7	26.5	26.4	26.3	26.3
90°	0.9	1.5	2.3	3.0	3.7	4.3	4.8	5.3	5.8	6.4	6.7
92.5°	6.2	7.0	7.7	8.6	9.4	9.9	10.4	10.7	11.1	11.4	11.7
95°	17.3	17.9	18.4	19.0	19.6	20.1	20.5	21.0	21.4	21.9	22.1
97.5°	30.2	30.7	31.1	31.6	32.0	32.5	33.0	33.6	34.1	34.7	34.9
100°	40.4	40.6	40.8	41.1	41.3	41.7	42.3	43.0	43.5	44.1	44.2
102.5°	51.0	51.0	51.1	51.3	51.4	51.7	52.2	52.7	53.2	53.7	54.0
105°	67.1	67.2	67.3	67.3	67.3	67.5	67.8	68.1	68.3	68.6	68.7
107.5°	84.1	84.2	84.3	84.4	84.5	84.5	84.5	84.5	84.6	84.6	84.8
110°	95.6	95.8	95.9	96.0	96.1	96.2	96.1	96.0	96.0	96.0	95.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	107.6	107.6	107.7	107.7	107.7	107.7	107.5	107.5	107.4	107.2	107.2
115°	125.6	125.6	125.6	125.6	125.6	125.6	125.4	125.3	125.1	125.1	125.0
117.5°	142.5	142.6	142.7	142.7	142.8	142.8	142.7	142.6	142.4	142.4	142.2
120°	153.8	154.1	154.3	154.6	154.9	154.9	154.7	154.5	154.3	154.2	153.8
122.5°	165.6	165.7	165.8	165.9	166.0	166.0	165.9	165.8	165.8	165.7	165.4
125°	183.0	183.0	183.0	183.0	183.0	182.9	182.9	182.8	182.7	182.6	182.5
127.5°	198.7	198.9	199.1	199.3	199.4	199.5	199.4	199.3	199.2	199.1	198.9
130°	209.8	209.9	210.1	210.3	210.5	210.6	210.6	210.6	210.6	210.6	210.5
132.5°	221.0	221.2	221.3	221.4	221.6	221.6	221.6	221.5	221.5	221.4	221.3
135°	235.9	236.4	236.7	237.1	237.5	237.7	237.7	237.7	237.7	237.7	237.6
137.5°	252.2	252.4	252.6	252.7	252.9	253.1	253.2	253.2	253.4	253.5	253.3
140°	263.0	263.2	263.3	263.4	263.6	263.6	263.6	263.6	263.6	263.6	263.6
142.5°	273.0	273.0	273.2	273.3	273.5	273.5	273.5	273.4	273.4	273.3	273.3
145°	286.7	286.9	287.1	287.4	287.7	287.9	287.9	288.0	288.0	288.1	288.0
147.5°	300.3	300.6	300.8	301.2	301.5	301.6	301.6	301.5	301.5	301.4	301.3
150°	308.6	308.8	309.1	309.3	309.6	309.7	309.7	309.7	309.7	309.7	309.7
152.5°	316.4	316.6	316.7	316.8	317.0	317.1	317.2	317.2	317.2	317.3	317.5
155°	328.4	328.4	328.4	328.4	328.4	328.4	328.3	328.2	328.2	328.2	328.4
157.5°	338.6	338.4	338.3	338.3	338.1	338.0	338.0	338.0	338.0	338.0	338.2
160°	344.5	344.5	344.5	344.4	344.3	344.2	344.2	344.1	344.1	344.0	344.2
162.5°	350.1	349.9	349.8	349.6	349.4	349.4	349.3	349.2	349.1	349.0	349.4
165°	357.5	357.3	357.2	356.9	356.8	356.6	356.4	356.4	356.2	356.1	356.4
167.5°	363.2	363.0	362.7	362.4	362.2	362.0	362.1	362.1	362.1	362.1	362.5
170°	366.5	366.2	365.8	365.5	365.2	365.1	365.1	365.2	365.3	365.3	365.7
172.5°	368.8	368.5	368.2	367.9	367.7	367.5	367.5	367.6	367.6	367.6	368.0
175°	371.9	371.6	371.3	371.0	370.6	370.5	370.4	370.3	370.3	370.2	370.6
177.5°	373.0	372.8	372.4	372.2	371.9	371.9	371.9	371.9	371.9	371.9	372.2
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5



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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°	26.4	26.5	26.6	26.7	26.7	26.7	26.7	26.7
90°	7.1	7.5	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	11.9	12.1	12.3	12.5	12.6	12.6	12.7	12.8
95°	22.3	22.5	22.7	22.7	22.7	22.7	22.7	22.7
97.5°	35.1	35.3	35.5	35.6	35.6	35.6	35.6	35.6
100°	44.4	44.4	44.6	44.7	44.7	44.7	44.7	44.7
102.5°	54.1	54.3	54.5	54.6	54.6	54.7	54.7	54.8
105°	69.0	69.1	69.3	69.5	69.7	70.0	70.1	70.3
107.5°	85.0	85.2	85.4	85.4	85.4	85.4	85.4	85.4
110°	95.7	95.6	95.4	95.5	95.6	95.9	96.0	96.2



TEST NUMBER: P332677-930

CATALOG NUMBER: SA4XXDIP-C1195D365U930-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	107.2	107.1	107.1	107.1	107.2	107.2	107.2	107.3
115°	124.9	124.8	124.7	124.7	124.7	124.6	124.5	124.5
117.5°	141.9	141.7	141.5	141.4	141.2	141.0	141.0	140.8
120°	153.5	153.2	152.9	152.8	152.9	153.0	153.1	153.3
122.5°	165.3	165.0	164.8	164.5	164.4	164.1	163.9	163.6
125°	182.4	182.3	182.1	182.0	181.9	181.7	181.6	181.5
127.5°	198.9	198.7	198.5	198.4	198.4	198.3	198.1	198.0
130°	210.3	210.2	210.1	209.9	209.6	209.4	209.1	208.9
132.5°	221.2	221.0	220.9	220.8	220.7	220.6	220.5	220.4
135°	237.4	237.3	237.2	237.0	236.8	236.6	236.4	236.3
137.5°	253.2	253.0	252.8	252.7	252.7	252.8	252.8	252.9
140°	263.5	263.4	263.3	263.3	263.3	263.2	263.1	263.0
142.5°	273.3	273.3	273.2	273.2	273.2	273.2	273.2	273.2
145°	288.0	287.9	287.9	287.7	287.6	287.3	287.1	287.0
147.5°	301.3	301.3	301.2	301.2	301.1	301.0	300.9	300.9
150°	309.7	309.7	309.7	309.7	309.7	309.6	309.5	309.4
152.5°	317.6	317.8	318.0	317.9	317.7	317.6	317.4	317.2
155°	328.6	328.9	329.1	329.1	328.9	328.6	328.4	328.2
157.5°	338.3	338.6	338.8	338.8	338.5	338.3	338.1	337.9
160°	344.4	344.5	344.8	344.7	344.4	344.1	343.7	343.4
162.5°	349.8	350.1	350.4	350.4	350.2	349.8	349.5	349.2
165°	356.9	357.3	357.6	357.7	357.4	357.2	356.9	356.7
167.5°	362.9	363.2	363.6	363.6	363.2	362.8	362.4	362.0
170°	366.1	366.5	366.9	366.8	366.4	365.9	365.5	365.0
172.5°	368.5	368.9	369.3	369.3	368.9	368.4	368.0	367.5
175°	371.1	371.5	372.0	372.0	371.5	371.1	370.6	370.2
177.5°	372.5	372.9	373.2	373.2	372.8	372.4	372.0	371.6
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5

(END OF REPORT)