

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: P332994-940

Luminaire Tested: **SA4XXRDIP-C1195D590U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332994-940
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: SA4XXRDIP-C1195D590U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

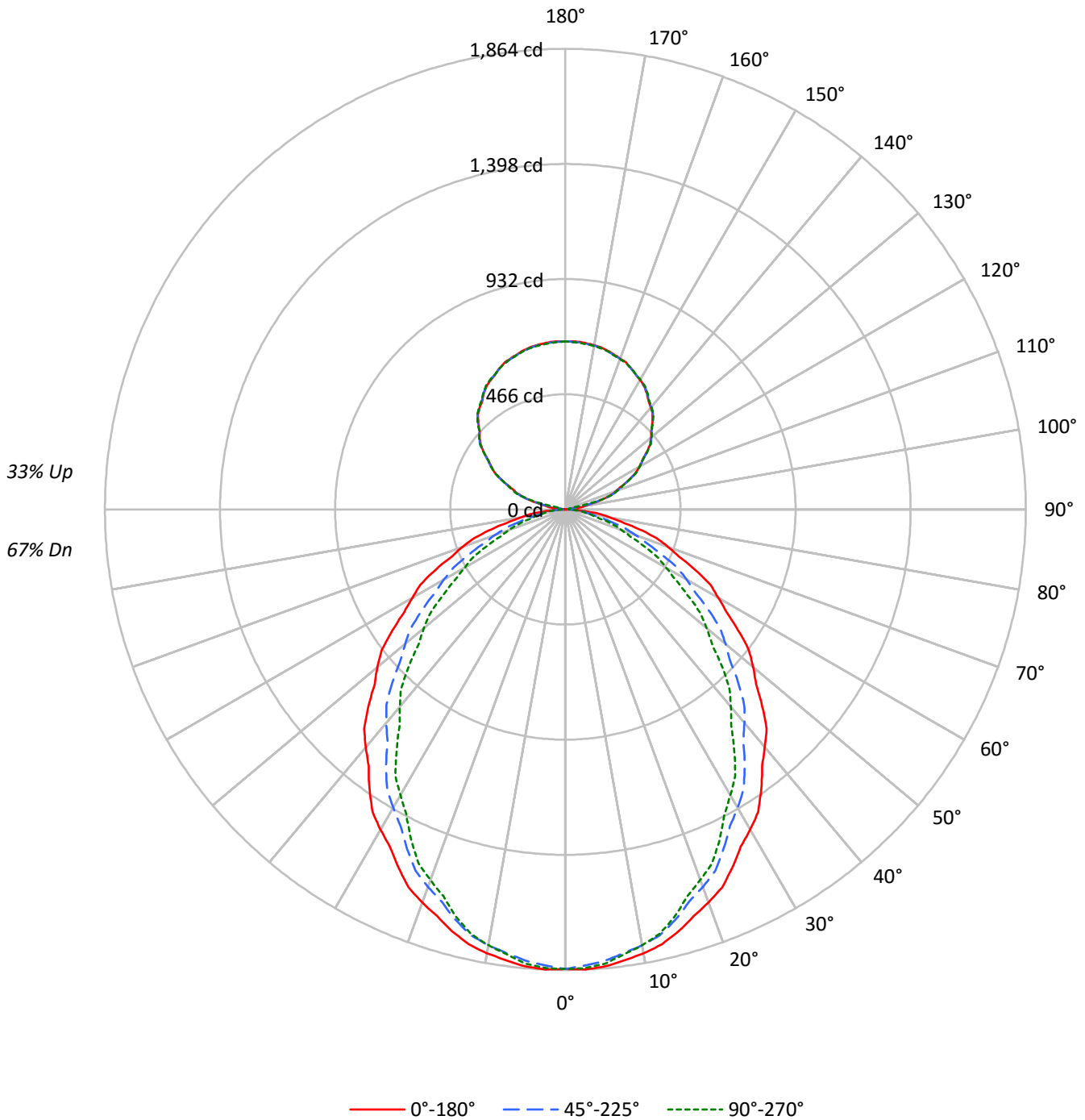
Lumens per Lamp: N/A
Luminaire Lumens: 6402.1 lumens
Efficiency: N/A
Efficacy: 116.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

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



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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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	98	94	90	96	92	89	86	82	80	77	73	71	69	64	63	61	57
2	93	86	80	74	88	81	76	71	72	68	65	64	61	58	57	54	52	49
3	85	76	68	62	80	72	65	60	64	59	55	57	53	50	51	48	45	42
4	78	67	59	53	73	64	57	51	57	52	47	51	47	43	46	42	39	36
5	72	60	52	46	68	57	50	44	51	45	41	46	41	37	41	37	34	31
6	66	54	46	40	63	52	44	39	47	40	36	42	37	33	37	33	30	28
7	62	49	41	35	58	47	39	34	42	36	32	38	33	29	34	30	27	25
8	57	45	37	32	54	43	36	31	39	33	28	35	30	26	32	27	24	22
9	54	41	33	28	50	39	32	27	36	30	26	32	27	24	29	25	22	20
10	50	38	30	26	47	36	29	25	33	27	23	30	25	22	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15012	15012	15012
5°	15046	14862	14955
10°	14952	14684	14684
15°	14780	14375	14269
20°	14545	13970	13713
25°	14243	13495	13153
30°	13951	12995	12450
35°	13626	12476	11745
40°	13235	11884	10984
45°	12875	11298	10209
50°	12465	10623	9388
55°	12024	9920	8497
60°	11541	9150	7585
65°	11096	8187	6692
70°	10452	7124	5681
75°	9638	5908	4619
80°	8405	4500	4235
85°	7123	4085	3825



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	2.7
10°-20°	487.1	7.6
20°-30°	703.4	11.0
30°-40°	797.3	12.5
40°-50°	770.0	12.0
50°-60°	640.3	10.0
60°-70°	442.1	6.9
70°-80°	224.1	3.5
80°-90°	59.5	0.9
90°-100°	23.3	0.4
100°-110°	148.3	2.3
110°-120°	283.7	4.4
120°-130°	360.1	5.6
130°-140°	385.3	6.0
140°-150°	360.3	5.6
150°-160°	290.6	4.5
160°-170°	187.4	2.9
170°-180°	64.6	1.0
0°-30°	1365.2	21.3
0°-40°	2162.6	33.8
0°-60°	3572.8	55.8
0°-90°	4298.4	67.1
90°-120°	455.3	7.1
90°-150°	1561.1	24.4
90°-180°	2104.0	32.9
0°-180°	6402.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1860	1860	1860	1860	1860	
5°	1857	1850	1834	1847	1845	176
15°	1768	1754	1720	1717	1707	498
25°	1599	1572	1515	1491	1477	736
35°	1383	1336	1266	1219	1192	864
45°	1128	1073	990	922	894	869
55°	854	795	705	633	604	764
65°	581	518	429	370	350	573
75°	309	256	189	158	148	326
85°	77	50	44	41	41	87
90°	2	7	11	14	15	5
95°	28	12	11	14	15	36
105°	153	156	159	162	145	160
115°	286	287	287	288	288	281
125°	402	404	403	404	405	359
135°	498	498	500	501	502	384
145°	575	576	576	577	578	359
155°	630	631	629	631	630	290
165°	665	662	662	666	662	188
175°	680	677	678	682	676	65
180°	680	680	680	680	680	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1864.1	1863.1	1862.2	1861.1	1860.1	1858.2	1855.5	1852.6	1849.9	1847.1	1849.9
5°	1856.7	1855.5	1854.2	1853.0	1851.7	1849.1	1845.4	1841.6	1837.8	1834.0	1837.1
7.5°	1840.0	1838.6	1837.3	1835.9	1834.6	1831.5	1826.6	1821.7	1816.7	1811.8	1813.8
10°	1824.0	1822.4	1820.9	1819.3	1817.7	1814.0	1808.4	1802.7	1797.0	1791.3	1792.5
12.5°	1803.5	1801.7	1799.8	1798.0	1796.2	1791.9	1785.2	1778.5	1771.7	1765.1	1765.9
15°	1768.4	1765.6	1762.8	1760.0	1757.1	1751.7	1743.8	1735.9	1728.0	1720.0	1719.4
17.5°	1726.1	1721.9	1717.8	1713.7	1709.6	1702.8	1693.3	1683.8	1674.3	1664.8	1663.0
20°	1693.0	1688.9	1684.8	1680.7	1676.6	1669.1	1658.4	1647.6	1636.8	1626.1	1623.5
22.5°	1656.5	1652.0	1647.3	1642.7	1638.1	1630.0	1618.5	1607.0	1595.4	1583.9	1580.1
25°	1599.0	1593.3	1587.6	1582.0	1576.3	1566.9	1554.0	1541.0	1528.0	1515.0	1509.7
27.5°	1538.6	1531.5	1524.4	1517.2	1510.0	1499.6	1485.7	1471.9	1457.9	1444.1	1437.4
30°	1496.6	1488.6	1480.7	1472.7	1464.9	1453.5	1438.6	1423.7	1408.9	1394.0	1386.1
32.5°	1452.1	1443.1	1434.2	1425.3	1416.4	1404.3	1388.8	1373.5	1358.1	1342.7	1333.6
35°	1382.6	1372.4	1362.4	1352.2	1342.1	1329.1	1313.3	1297.5	1281.7	1265.9	1255.1
37.5°	1308.3	1297.8	1287.4	1276.9	1266.5	1252.5	1235.0	1217.5	1200.0	1182.4	1170.4
40°	1255.9	1245.5	1235.0	1224.6	1214.1	1199.9	1181.9	1163.8	1145.8	1127.7	1114.5
42.5°	1205.8	1194.8	1183.8	1172.9	1162.0	1147.1	1128.3	1109.5	1090.7	1071.9	1058.4
45°	1127.7	1116.0	1104.3	1092.6	1080.9	1065.5	1046.6	1027.6	1008.6	989.6	974.1
47.5°	1047.1	1035.0	1023.0	1010.8	998.8	982.8	963.1	943.3	923.6	903.9	887.8
50°	992.5	980.1	967.8	955.5	943.1	926.8	906.5	886.3	866.0	845.8	830.0
52.5°	936.7	924.5	912.5	900.4	888.3	871.8	851.1	830.4	809.6	788.8	772.8
55°	854.3	841.7	829.0	816.4	803.7	787.1	766.5	746.0	725.4	704.8	688.4
57.5°	772.8	759.7	746.5	733.4	720.2	703.6	683.3	663.0	642.7	622.5	605.8
60°	714.8	702.1	689.5	676.8	664.1	647.7	627.5	607.3	586.9	566.7	550.3
62.5°	662.4	649.3	636.1	622.9	609.8	592.8	572.0	551.3	530.5	509.8	494.5
65°	580.9	567.3	553.8	540.1	526.6	509.6	489.4	469.1	448.9	428.6	415.0
67.5°	496.3	483.3	470.3	457.3	444.3	428.3	409.5	390.7	371.9	353.1	341.4
70°	442.8	429.5	416.3	403.0	389.7	374.0	356.0	338.0	319.9	301.8	291.4
72.5°	385.8	373.9	361.9	349.8	337.8	323.2	306.2	289.2	272.2	255.1	246.2
75°	309.0	297.3	285.5	273.8	262.2	248.9	234.0	219.1	204.3	189.4	182.1
77.5°	231.0	221.1	211.1	201.2	191.2	180.2	168.2	156.2	144.2	132.2	127.9
80°	180.8	171.7	162.5	153.3	144.1	134.8	125.3	115.8	106.3	96.8	95.9
82.5°	137.6	129.1	120.7	112.3	103.9	96.9	91.5	86.1	80.6	75.2	74.5
85°	76.9	70.5	64.2	57.9	51.5	48.0	47.0	46.0	45.1	44.1	43.5
87.5°	26.5	24.7	22.9	21.1	19.4	18.5	18.4	18.4	18.3	18.2	18.1
90°	1.5	2.8	4.0	5.3	6.5	7.6	8.5	9.4	10.3	11.1	11.9
92.5°	6.4	6.5	6.5	6.6	6.7	7.1	8.1	9.0	9.9	10.8	11.5
95°	28.0	24.2	20.3	16.4	12.6	10.7	10.9	11.0	11.1	11.1	11.9
97.5°	59.4	61.8	64.2	66.6	69.0	63.8	51.3	38.7	26.0	13.5	13.5
100°	83.4	85.4	87.5	89.5	91.6	84.8	69.2	53.6	38.0	22.4	20.4
102.5°	110.3	111.7	113.2	114.8	116.3	116.0	114.0	111.9	109.9	107.8	87.1
105°	153.1	153.8	154.4	155.2	155.8	156.4	157.0	157.6	158.1	158.7	159.7
107.5°	192.9	193.2	193.6	193.9	194.2	194.7	195.6	196.4	197.1	197.9	198.4
110°	219.7	220.1	220.4	220.8	221.1	221.6	222.3	222.9	223.6	224.4	224.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	245.8	246.4	247.0	247.6	248.3	248.7	249.0	249.3	249.7	249.9	249.9
115°	285.9	286.2	286.5	286.9	287.2	287.3	287.2	287.1	287.0	286.9	287.1
117.5°	322.0	322.4	322.9	323.3	323.8	324.1	324.4	324.7	324.9	325.1	325.1
120°	346.4	346.9	347.3	347.8	348.2	348.4	348.3	348.1	348.0	347.9	348.1
122.5°	369.2	369.4	369.7	370.0	370.2	370.5	370.7	370.8	371.0	371.1	371.2
125°	401.8	402.3	402.8	403.2	403.7	403.8	403.5	403.3	403.1	402.9	403.2
127.5°	432.7	432.8	433.0	433.1	433.2	433.5	434.1	434.5	435.1	435.6	435.5
130°	452.7	452.8	452.9	453.1	453.2	453.3	453.7	454.1	454.4	454.8	454.9
132.5°	471.0	471.2	471.4	471.6	471.8	472.2	472.6	473.0	473.4	473.9	473.9
135°	498.5	498.4	498.3	498.1	498.0	498.2	498.6	499.1	499.5	500.0	500.2
137.5°	522.8	522.8	522.9	522.9	523.0	523.3	523.7	524.2	524.8	525.2	525.5
140°	538.7	538.9	539.1	539.3	539.6	539.8	540.0	540.3	540.5	540.7	541.0
142.5°	552.9	553.3	553.8	554.1	554.6	554.8	554.9	555.1	555.2	555.4	555.6
145°	574.8	575.2	575.4	575.8	576.1	576.3	576.3	576.3	576.3	576.3	576.4
147.5°	592.2	592.8	593.4	594.1	594.7	594.9	594.9	594.8	594.6	594.5	594.6
150°	604.8	605.2	605.7	606.2	606.6	606.8	606.6	606.5	606.5	606.3	606.3
152.5°	615.4	615.7	616.1	616.4	616.8	616.9	616.7	616.5	616.3	616.1	616.3
155°	630.3	630.4	630.4	630.5	630.7	630.5	630.3	629.9	629.5	629.2	629.6
157.5°	642.7	642.7	642.6	642.6	642.5	642.2	641.9	641.5	641.1	640.7	641.3
160°	650.1	649.7	649.3	649.1	648.7	648.5	648.4	648.3	648.1	648.0	648.7
162.5°	656.6	656.1	655.7	655.3	654.9	654.6	654.4	654.3	654.2	654.2	654.8
165°	664.8	664.2	663.7	663.1	662.5	662.3	662.3	662.3	662.3	662.3	663.2
167.5°	671.3	670.7	670.1	669.6	669.0	668.6	668.6	668.5	668.4	668.3	669.4
170°	675.0	674.3	673.6	673.0	672.3	672.0	672.1	672.2	672.3	672.4	673.3
172.5°	677.4	676.7	676.1	675.4	674.8	674.4	674.6	674.7	674.8	674.8	675.8
175°	680.1	679.4	678.7	678.1	677.3	677.1	677.2	677.3	677.4	677.5	678.5
177.5°	681.3	680.6	680.0	679.4	678.8	678.5	678.7	678.9	679.0	679.2	680.0
180°	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6	1859.6
2.5°	1852.6	1855.5	1858.2	1859.5	1859.2	1858.9	1858.7	1858.5
5°	1840.3	1843.4	1846.6	1847.9	1847.3	1846.6	1846.0	1845.4
7.5°	1815.8	1817.8	1819.9	1820.3	1819.4	1818.4	1817.3	1816.3
10°	1793.8	1795.0	1796.4	1796.4	1795.0	1793.8	1792.5	1791.3
12.5°	1766.6	1767.4	1768.1	1767.5	1765.9	1764.1	1762.3	1760.5
15°	1718.8	1718.1	1717.5	1716.1	1713.9	1711.6	1709.5	1707.3
17.5°	1661.3	1659.5	1657.7	1655.2	1651.8	1648.4	1645.1	1641.7
20°	1621.0	1618.5	1616.0	1612.7	1608.6	1604.5	1600.3	1596.2
22.5°	1576.4	1572.5	1568.8	1565.2	1561.8	1558.4	1555.1	1551.8
25°	1504.2	1498.9	1493.5	1489.2	1486.0	1482.9	1479.7	1476.6
27.5°	1430.8	1424.2	1417.6	1411.9	1407.4	1402.8	1398.3	1393.7
30°	1378.1	1370.3	1362.4	1355.8	1350.8	1345.8	1340.7	1335.6
32.5°	1324.4	1315.2	1306.0	1299.0	1294.2	1289.4	1284.6	1279.8
35°	1244.3	1233.6	1222.8	1214.6	1208.9	1203.2	1197.5	1191.8
37.5°	1158.3	1146.3	1134.3	1125.4	1119.7	1114.0	1108.4	1102.7
40°	1101.2	1087.9	1074.6	1065.1	1059.4	1053.6	1048.0	1042.3
42.5°	1044.8	1031.3	1017.7	1008.0	1002.0	996.1	990.2	984.2
45°	958.6	943.1	927.6	916.9	911.3	905.6	899.9	894.2
47.5°	871.7	855.7	839.6	828.4	822.2	815.9	809.6	803.3
50°	814.1	798.3	782.5	771.6	765.6	759.6	753.6	747.5
52.5°	756.7	740.7	724.5	713.4	707.1	700.9	694.6	688.3
55°	671.9	655.5	639.0	627.8	621.8	615.7	609.8	603.7
57.5°	589.2	572.4	555.7	545.1	540.6	535.9	531.4	526.8
60°	533.8	517.4	500.9	490.2	485.1	480.0	474.9	469.8
62.5°	479.4	464.2	449.0	439.3	435.3	431.3	427.2	423.2
65°	401.4	387.8	374.2	365.4	361.7	357.8	354.1	350.3
67.5°	329.8	318.0	306.3	298.4	294.2	290.0	285.8	281.6
70°	281.0	270.5	260.1	253.3	250.1	247.0	243.8	240.7
72.5°	237.3	228.4	219.5	213.6	210.6	207.8	204.8	201.9
75°	174.9	167.6	160.2	155.7	153.8	151.9	150.0	148.1
77.5°	123.7	119.4	115.2	112.8	112.2	111.6	111.1	110.5
80°	95.0	94.0	93.0	92.4	92.1	91.8	91.5	91.1
82.5°	73.8	73.1	72.4	71.9	71.6	71.2	71.0	70.6
85°	42.9	42.3	41.6	41.3	41.3	41.3	41.3	41.3
87.5°	17.9	17.8	17.7	17.8	18.1	18.4	18.7	19.0
90°	12.6	13.2	13.9	14.4	14.6	14.8	15.1	15.2
92.5°	12.1	12.8	13.5	13.8	13.9	13.9	14.0	14.0
95°	12.6	13.2	13.9	14.3	14.4	14.5	14.6	14.7
97.5°	13.6	13.6	13.7	13.8	13.9	14.0	14.1	14.3
100°	18.5	16.6	14.7	13.8	13.9	14.0	14.1	14.3
102.5°	66.3	45.7	24.9	14.5	14.6	14.6	14.6	14.6
105°	160.8	161.8	162.7	161.2	157.2	153.1	149.0	145.0
107.5°	198.9	199.4	199.8	200.3	200.7	201.2	201.6	202.1
110°	224.8	225.0	225.2	225.5	225.9	226.1	226.5	226.9



TEST NUMBER: P332994-940

CATALOG NUMBER: SA4XXRDIP-C1195D590U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	249.9	249.9	249.8	249.9	250.4	250.8	251.3	251.6
115°	287.3	287.6	287.8	287.9	287.9	287.9	287.9	287.9
117.5°	325.0	325.0	324.9	324.9	324.9	324.9	324.8	324.8
120°	348.4	348.6	348.8	348.8	348.6	348.4	348.1	347.9
122.5°	371.4	371.5	371.7	371.6	371.4	371.1	371.0	370.7
125°	403.5	403.9	404.2	404.5	404.6	404.7	404.7	404.9
127.5°	435.5	435.4	435.3	435.2	435.2	435.1	435.0	434.9
130°	455.0	455.0	455.2	455.2	455.2	455.2	455.2	455.2
132.5°	474.1	474.2	474.3	474.3	474.2	474.1	474.0	473.9
135°	500.4	500.7	500.9	501.1	501.3	501.6	501.9	502.0
137.5°	525.8	526.0	526.2	526.3	526.3	526.2	526.1	526.0
140°	541.4	541.7	542.1	542.2	542.4	542.5	542.6	542.7
142.5°	555.8	556.1	556.3	556.5	556.5	556.5	556.5	556.6
145°	576.5	576.7	576.8	576.9	577.1	577.4	577.7	577.8
147.5°	594.7	594.8	594.9	594.9	595.1	595.2	595.3	595.4
150°	606.3	606.3	606.3	606.4	606.5	606.6	606.7	606.8
152.5°	616.4	616.6	616.8	616.9	616.8	616.7	616.6	616.6
155°	630.1	630.5	631.0	631.1	630.7	630.4	630.1	629.7
157.5°	641.9	642.5	643.0	643.0	642.5	641.9	641.3	640.7
160°	649.3	650.1	650.8	650.8	650.1	649.3	648.7	648.0
162.5°	655.5	656.1	656.8	656.8	656.0	655.2	654.5	653.7
165°	664.1	664.9	665.9	665.8	664.8	663.8	662.8	661.7
167.5°	670.4	671.4	672.3	672.3	671.2	670.0	668.9	667.8
170°	674.2	675.1	676.1	675.9	674.8	673.7	672.5	671.5
172.5°	676.7	677.6	678.5	678.3	677.2	675.9	674.7	673.4
175°	679.6	680.6	681.6	681.4	680.1	678.7	677.3	676.0
177.5°	680.7	681.4	682.2	682.0	680.9	679.8	678.7	677.6
180°	680.1	680.1	680.1	680.1	680.1	680.1	680.1	680.1

(END OF REPORT)