

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: P332677-830

Luminaire Tested: **SA4XXDIP-C1195D365U830-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332677-830
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-C1195D365U830-4F0-1E-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

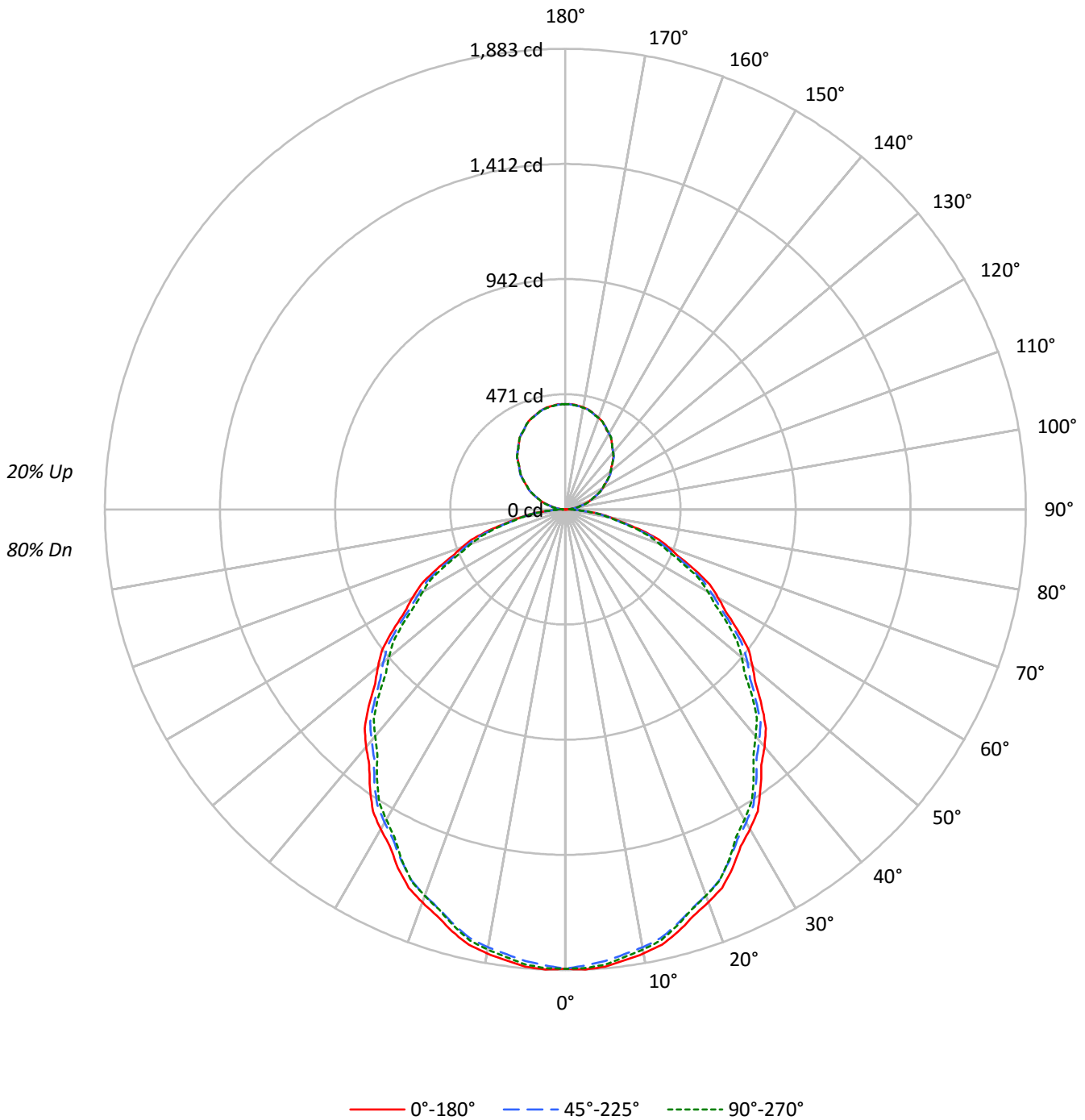
Lumens per Lamp: N/A
Luminaire Lumens: 6016.2 lumens
Efficiency: N/A
Efficacy: 120.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

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°	15163	15163	15163
5°	15209	15027	15135
10°	15114	14905	14978
15°	14931	14692	14730
20°	14689	14430	14442
25°	14412	14130	14091
30°	14072	13778	13651
35°	13720	13409	13232
40°	13354	12991	12752
45°	12973	12578	12337
50°	12552	12210	11833
55°	12096	11736	11354
60°	11641	11202	10863
65°	11127	10695	10264
70°	10551	10017	9626
75°	9669	9201	8968
80°	8605	8257	8047
85°	7521	7243	7104



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.9	2.9
10°-20°	498.4	8.3
20°-30°	733.6	12.2
30°-40°	852.8	14.2
40°-50°	852.8	14.2
50°-60°	746.0	12.4
60°-70°	554.0	9.2
70°-80°	314.7	5.2
80°-90°	92.1	1.5
90°-100°	28.4	0.5
100°-110°	84.2	1.4
110°-120°	142.8	2.4
120°-130°	188.3	3.1
130°-140°	211.5	3.5
140°-150°	207.8	3.5
150°-160°	174.8	2.9
160°-170°	116.3	1.9
170°-180°	40.7	0.7
0°-30°	1408.8	23.4
0°-40°	2261.6	37.6
0°-60°	3860.5	64.2
0°-90°	4821.3	80.1
90°-120°	255.4	4.2
90°-150°	863.0	14.3
90°-180°	1195.0	19.9
0°-180°	6016.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1878	1878	1878	1878	1878	
5°	1877	1870	1854	1870	1868	178
15°	1786	1780	1758	1766	1762	503
25°	1618	1607	1586	1587	1582	744
35°	1392	1381	1361	1350	1343	870
45°	1136	1125	1102	1086	1081	876
55°	859	854	834	816	807	769
65°	582	575	560	545	537	577
75°	310	302	295	289	288	329
85°	81	81	78	78	77	89
90°	1	5	7	9	10	6
95°	20	23	25	26	26	22
105°	78	78	79	80	81	82
115°	145	145	145	144	144	143
125°	212	211	211	210	210	188
135°	273	275	275	274	273	211
145°	331	333	333	333	332	207
155°	380	380	379	380	379	175
165°	413	412	412	413	412	116
175°	430	428	428	430	428	41
180°	431	431	431	431	431	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1883.1	1882.4	1881.5	1880.7	1879.9	1878.0	1875.1	1872.2	1869.3	1866.3	1869.0
5°	1876.8	1875.5	1874.2	1872.8	1871.5	1869.0	1865.3	1861.6	1857.9	1854.3	1857.9
7.5°	1859.4	1858.0	1856.7	1855.3	1854.0	1851.3	1847.2	1843.1	1839.1	1834.9	1838.0
10°	1843.7	1842.4	1841.1	1839.7	1838.3	1835.5	1831.2	1826.8	1822.5	1818.2	1820.8
12.5°	1823.3	1821.9	1820.5	1819.2	1817.9	1814.9	1810.3	1805.7	1801.1	1796.5	1799.4
15°	1786.5	1785.2	1783.9	1782.5	1781.1	1778.0	1772.9	1767.9	1762.9	1757.9	1759.9
17.5°	1742.3	1740.6	1738.9	1737.3	1735.6	1732.4	1727.6	1722.9	1718.2	1713.4	1714.7
20°	1709.8	1708.1	1706.4	1704.8	1703.1	1699.7	1694.7	1689.7	1684.7	1679.6	1680.6
22.5°	1674.8	1672.6	1670.5	1668.2	1666.0	1662.4	1657.4	1652.4	1647.4	1642.3	1644.2
25°	1618.0	1615.6	1613.3	1610.9	1608.5	1605.1	1600.3	1595.7	1591.0	1586.3	1586.7
27.5°	1552.9	1550.5	1548.1	1545.7	1543.3	1539.9	1535.6	1531.3	1526.9	1522.5	1521.7
30°	1509.6	1506.9	1504.2	1501.6	1498.9	1495.3	1491.0	1486.7	1482.3	1478.0	1476.7
32.5°	1463.9	1461.4	1459.1	1456.6	1454.2	1450.7	1446.0	1441.4	1436.8	1432.2	1430.6
35°	1392.2	1389.9	1387.5	1385.2	1382.8	1379.3	1374.6	1370.0	1365.3	1360.6	1358.2
37.5°	1316.6	1314.5	1312.4	1310.2	1308.1	1304.5	1299.5	1294.5	1289.4	1284.4	1281.9
40°	1267.2	1264.6	1261.9	1259.2	1256.6	1252.7	1247.7	1242.6	1237.7	1232.7	1229.3
42.5°	1214.3	1212.7	1211.1	1209.5	1207.9	1204.3	1198.7	1193.2	1187.6	1182.0	1178.2
45°	1136.3	1134.0	1131.6	1129.3	1127.0	1123.1	1117.8	1112.4	1107.0	1101.7	1098.1
47.5°	1054.7	1053.1	1051.5	1049.9	1048.3	1045.1	1040.1	1035.2	1030.2	1025.3	1021.2
50°	999.4	998.1	996.6	995.3	994.0	991.0	986.3	981.7	976.9	972.2	967.6
52.5°	945.2	943.6	942.0	940.4	938.8	935.5	930.6	925.6	920.7	915.7	911.5
55°	859.4	858.4	857.4	856.4	855.4	852.5	847.8	843.2	838.5	833.8	829.8
57.5°	777.5	776.4	775.2	774.1	773.0	770.1	765.4	760.8	756.2	751.6	747.8
60°	721.0	719.3	717.6	716.0	714.3	711.2	706.9	702.6	698.1	693.8	690.8
62.5°	665.5	664.1	662.7	661.3	660.0	657.0	652.3	647.7	643.1	638.5	635.7
65°	582.5	580.8	579.1	577.4	575.8	573.3	570.0	566.6	563.3	559.9	556.6
67.5°	498.8	497.3	495.7	494.2	492.7	490.2	487.0	483.8	480.6	477.4	474.2
70°	447.0	444.7	442.3	440.0	437.6	435.2	432.4	429.8	427.1	424.4	421.8
72.5°	391.6	389.3	386.9	384.6	382.3	380.0	377.9	375.7	373.6	371.5	369.3
75°	310.0	308.4	306.7	305.0	303.3	301.7	300.0	298.3	296.7	295.0	293.7
77.5°	232.1	231.3	230.6	229.9	229.1	228.0	226.6	225.1	223.7	222.2	221.8
80°	185.1	184.1	183.1	182.1	181.2	180.3	179.6	178.9	178.2	177.6	176.9
82.5°	139.4	138.9	138.5	138.0	137.5	137.2	137.0	137.0	136.8	136.7	136.3
85°	81.2	81.2	81.2	81.2	81.2	81.0	80.3	79.6	78.9	78.2	78.2
87.5°	31.5	31.4	31.3	31.2	31.1	30.9	30.8	30.6	30.5	30.3	30.4
90°	1.0	1.8	2.6	3.5	4.2	5.0	5.6	6.1	6.7	7.4	7.7
92.5°	7.2	8.1	9.0	9.9	10.8	11.5	12.0	12.3	12.8	13.2	13.5
95°	20.0	20.6	21.3	22.0	22.6	23.3	23.8	24.3	24.8	25.4	25.5
97.5°	34.9	35.4	36.0	36.5	37.0	37.6	38.2	38.8	39.4	40.1	40.3
100°	46.7	46.9	47.2	47.5	47.8	48.3	48.9	49.7	50.3	51.0	51.1
102.5°	58.9	59.0	59.1	59.3	59.4	59.8	60.3	61.0	61.5	62.1	62.4
105°	77.6	77.7	77.8	77.9	77.9	78.0	78.4	78.7	79.0	79.3	79.5
107.5°	97.3	97.4	97.5	97.6	97.6	97.6	97.7	97.7	97.8	97.8	98.0
110°	110.6	110.7	110.8	111.0	111.1	111.2	111.1	111.0	110.9	110.9	110.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	124.4	124.4	124.5	124.5	124.5	124.5	124.3	124.2	124.1	123.9	123.9
115°	145.2	145.2	145.2	145.2	145.2	145.2	145.0	144.9	144.7	144.6	144.5
117.5°	164.8	164.9	164.9	164.9	165.0	165.0	164.9	164.9	164.7	164.6	164.4
120°	177.9	178.1	178.4	178.7	179.1	179.1	178.9	178.6	178.4	178.2	177.9
122.5°	191.4	191.5	191.7	191.8	191.9	191.9	191.8	191.7	191.6	191.5	191.2
125°	211.5	211.5	211.5	211.5	211.5	211.4	211.4	211.3	211.2	211.1	211.0
127.5°	229.7	229.9	230.2	230.4	230.5	230.6	230.5	230.4	230.3	230.2	230.0
130°	242.5	242.7	242.9	243.2	243.4	243.5	243.5	243.5	243.5	243.5	243.4
132.5°	255.5	255.7	255.8	256.0	256.2	256.2	256.2	256.1	256.1	256.0	255.8
135°	272.8	273.2	273.6	274.1	274.6	274.8	274.8	274.8	274.8	274.8	274.7
137.5°	291.5	291.8	292.0	292.2	292.4	292.6	292.7	292.8	292.9	293.0	292.8
140°	304.1	304.3	304.3	304.5	304.7	304.7	304.7	304.7	304.7	304.7	304.7
142.5°	315.6	315.7	315.8	315.9	316.1	316.2	316.1	316.0	316.0	315.9	315.9
145°	331.4	331.7	332.0	332.2	332.6	332.8	332.8	332.9	333.0	333.1	333.0
147.5°	347.1	347.5	347.8	348.2	348.6	348.6	348.6	348.6	348.6	348.5	348.4
150°	356.8	357.0	357.3	357.6	357.9	358.1	358.1	358.1	358.1	358.1	358.1
152.5°	365.8	366.0	366.1	366.3	366.5	366.6	366.6	366.7	366.7	366.8	367.0
155°	379.7	379.7	379.7	379.7	379.7	379.7	379.6	379.5	379.5	379.4	379.7
157.5°	391.4	391.2	391.2	391.1	390.9	390.8	390.8	390.8	390.8	390.8	391.0
160°	398.3	398.2	398.2	398.1	398.0	397.9	397.9	397.8	397.8	397.7	397.9
162.5°	404.7	404.5	404.4	404.2	404.0	403.9	403.8	403.7	403.6	403.5	404.0
165°	413.3	413.1	412.9	412.6	412.5	412.3	412.1	412.0	411.8	411.7	412.1
167.5°	419.9	419.6	419.3	419.0	418.7	418.5	418.6	418.6	418.6	418.6	419.1
170°	423.7	423.3	422.9	422.5	422.2	422.1	422.1	422.2	422.3	422.4	422.7
172.5°	426.3	426.0	425.7	425.4	425.1	424.9	424.9	425.0	425.0	425.0	425.5
175°	430.0	429.6	429.2	428.9	428.5	428.3	428.2	428.1	428.1	428.0	428.5
177.5°	431.2	430.9	430.6	430.3	430.0	429.9	429.9	429.9	429.9	429.9	430.3
180°	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3	1878.3
2.5°	1871.6	1874.3	1877.0	1878.2	1877.9	1877.6	1877.4	1877.1
5°	1861.6	1865.3	1869.0	1870.5	1869.8	1869.2	1868.5	1867.7
7.5°	1840.9	1843.8	1846.7	1848.0	1847.7	1847.2	1846.8	1846.4
10°	1823.4	1826.2	1828.8	1829.9	1829.2	1828.5	1827.8	1827.1
12.5°	1802.3	1805.3	1808.3	1809.2	1808.3	1807.3	1806.4	1805.4
15°	1761.9	1764.0	1765.9	1766.4	1765.5	1764.4	1763.4	1762.5
17.5°	1715.9	1717.2	1718.4	1718.7	1718.1	1717.4	1716.7	1716.1
20°	1681.7	1682.6	1683.7	1683.9	1683.2	1682.5	1681.9	1681.1
22.5°	1646.0	1647.8	1649.5	1649.8	1648.7	1647.5	1646.2	1645.0
25°	1587.1	1587.3	1587.7	1587.1	1585.8	1584.5	1583.2	1581.9
27.5°	1520.9	1520.1	1519.3	1518.1	1516.4	1514.8	1513.1	1511.4
30°	1475.3	1473.9	1472.6	1471.1	1469.4	1467.8	1466.1	1464.4
32.5°	1429.0	1427.4	1425.8	1424.2	1422.5	1420.8	1419.2	1417.5
35°	1355.9	1353.6	1351.2	1349.2	1347.6	1345.9	1344.2	1342.6
37.5°	1279.3	1276.8	1274.2	1271.9	1269.7	1267.4	1265.3	1263.0
40°	1226.0	1222.6	1219.3	1216.7	1215.1	1213.4	1211.7	1210.0
42.5°	1174.3	1170.4	1166.6	1164.0	1162.9	1161.8	1160.6	1159.5
45°	1094.4	1090.7	1087.0	1084.7	1083.6	1082.6	1081.7	1080.6
47.5°	1017.0	1012.9	1008.7	1005.3	1002.8	1000.2	997.7	995.1
50°	962.9	958.2	953.6	950.2	948.2	946.2	944.1	942.2
52.5°	907.4	903.2	899.1	895.8	893.2	890.7	888.2	885.6
55°	825.8	821.8	817.7	814.7	812.8	810.8	808.7	806.7
57.5°	744.0	740.2	736.4	733.5	731.6	729.6	727.6	725.8
60°	687.8	684.9	681.8	679.5	677.8	676.1	674.5	672.8
62.5°	632.9	630.2	627.5	625.3	623.6	621.9	620.3	618.6
65°	553.2	549.9	546.5	544.0	542.3	540.6	538.9	537.3
67.5°	471.0	467.8	464.6	462.7	462.2	461.8	461.3	460.8
70°	419.1	416.4	413.7	411.9	410.9	409.9	408.9	407.8
72.5°	367.2	365.0	362.9	361.3	360.3	359.3	358.3	357.3
75°	292.3	291.0	289.6	288.8	288.5	288.1	287.8	287.5
77.5°	221.3	220.9	220.6	219.9	219.0	218.2	217.3	216.4
80°	176.3	175.6	174.9	174.5	174.1	173.7	173.4	173.1
82.5°	135.8	135.4	135.1	134.7	134.3	134.0	133.7	133.4
85°	78.2	78.2	78.2	78.1	77.8	77.4	77.1	76.7
87.5°	30.5	30.6	30.7	30.8	30.8	30.8	30.8	30.9
90°	8.2	8.7	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	13.8	13.9	14.2	14.4	14.5	14.6	14.7	14.8
95°	25.7	26.0	26.2	26.3	26.3	26.3	26.3	26.3
97.5°	40.5	40.8	41.1	41.2	41.2	41.2	41.2	41.2
100°	51.3	51.4	51.6	51.7	51.7	51.7	51.7	51.7
102.5°	62.6	62.8	63.0	63.2	63.2	63.2	63.2	63.3
105°	79.7	79.9	80.1	80.4	80.6	80.9	81.1	81.2
107.5°	98.3	98.5	98.7	98.8	98.8	98.8	98.8	98.7
110°	110.7	110.5	110.3	110.4	110.6	110.8	111.0	111.2



TEST NUMBER: P332677-830

CATALOG NUMBER: SA4XXDIP-C1195D365U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	123.9	123.9	123.9	123.9	123.9	123.9	123.9	124.0
115°	144.4	144.3	144.2	144.2	144.1	144.0	143.9	143.9
117.5°	164.1	163.8	163.6	163.4	163.2	163.1	163.0	162.8
120°	177.5	177.1	176.7	176.6	176.7	176.9	177.0	177.2
122.5°	191.1	190.8	190.5	190.2	190.0	189.7	189.5	189.2
125°	210.8	210.8	210.6	210.4	210.3	210.1	210.0	209.8
127.5°	229.9	229.7	229.5	229.4	229.3	229.2	229.0	228.9
130°	243.2	243.0	242.9	242.6	242.3	242.0	241.8	241.5
132.5°	255.7	255.5	255.4	255.2	255.1	255.1	255.0	254.8
135°	274.5	274.4	274.2	274.0	273.8	273.5	273.3	273.1
137.5°	292.7	292.5	292.3	292.2	292.2	292.3	292.3	292.4
140°	304.6	304.5	304.4	304.3	304.3	304.3	304.2	304.1
142.5°	315.9	315.9	315.8	315.8	315.8	315.8	315.8	315.8
145°	332.9	332.8	332.8	332.6	332.4	332.2	332.0	331.8
147.5°	348.4	348.3	348.2	348.2	348.1	348.0	347.9	347.9
150°	358.1	358.1	358.1	358.0	358.0	357.9	357.8	357.7
152.5°	367.2	367.4	367.6	367.5	367.3	367.1	366.9	366.7
155°	379.9	380.2	380.5	380.5	380.2	379.9	379.7	379.4
157.5°	391.2	391.4	391.6	391.6	391.3	391.2	390.9	390.6
160°	398.1	398.3	398.6	398.5	398.1	397.8	397.4	397.0
162.5°	404.4	404.7	405.1	405.1	404.8	404.4	404.1	403.7
165°	412.6	413.0	413.4	413.5	413.2	412.9	412.6	412.4
167.5°	419.5	419.9	420.4	420.4	419.9	419.4	419.0	418.5
170°	423.2	423.7	424.1	424.0	423.6	423.0	422.5	422.0
172.5°	426.0	426.5	427.0	427.0	426.5	425.9	425.5	424.9
175°	429.0	429.5	430.1	430.1	429.5	429.0	428.5	428.0
177.5°	430.6	431.1	431.5	431.5	431.0	430.6	430.1	429.6
180°	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6

(END OF REPORT)