

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: P332696-830

Luminaire Tested: **SA4XXDIP-C1195D810U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332696-830
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-C1195D810U830-4F0-1E-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: 7550.4 lumens
Efficiency: N/A
Efficacy: 124.4 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

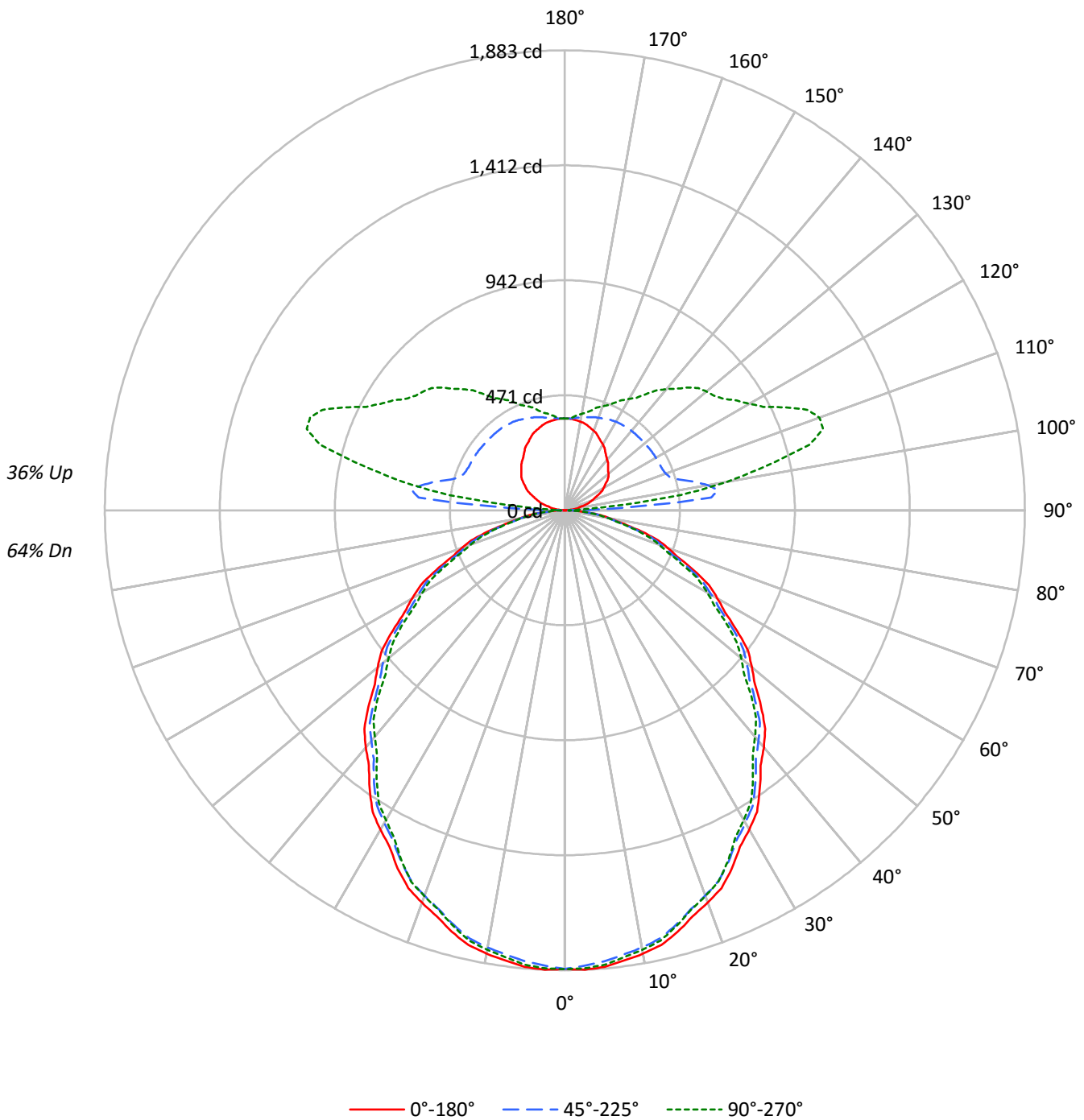
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	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	2.3
10°-20°	498.4	6.6
20°-30°	733.6	9.7
30°-40°	852.8	11.3
40°-50°	852.8	11.3
50°-60°	746.0	9.9
60°-70°	554.0	7.3
70°-80°	314.7	4.2
80°-90°	92.9	1.2
90°-100°	270.9	3.6
100°-110°	563.9	7.5
110°-120°	505.1	6.7
120°-130°	424.9	5.6
130°-140°	354.3	4.7
140°-150°	270.6	3.6
150°-160°	190.2	2.5
160°-170°	111.9	1.5
170°-180°	36.4	0.5
0°-30°	1408.8	18.7
0°-40°	2261.6	30.0
0°-60°	3860.5	51.1
0°-90°	4822.1	63.9
90°-120°	1340.0	17.7
90°-150°	2389.7	31.7
90°-180°	2728.0	36.1
0°-180°	7550.4	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	6	13	15	16	6
95°	24	77	601	297	180	27
105°	86	125	483	1041	1037	92
115°	152	191	431	828	996	151
125°	212	251	429	705	794	188
135°	251	299	425	626	710	194
145°	290	332	423	528	580	182
155°	329	356	411	466	486	152
165°	359	370	394	418	424	101
175°	374	375	378	383	382	36
180°	375	375	375	375	375	



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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	31.5	31.7	31.6	31.4	31.1	31.8	31.5	31.5	31.6	31.4
90°	0.8	2.2	4.4	5.2	5.9	5.9	10.3	10.3	11.8	13.3	12.5
92.5°	8.4	12.3	19.1	28.2	38.9	54.2	91.7	148.8	204.6	233.8	194.7
95°	24.3	26.5	33.9	43.5	61.2	92.1	156.3	277.1	453.3	600.7	617.6
97.5°	43.6	43.6	50.0	58.8	74.0	99.9	149.3	249.1	424.2	632.6	775.9
100°	56.0	56.0	61.2	70.0	84.0	107.6	151.1	234.4	384.7	592.6	781.2
102.5°	67.8	69.0	73.5	81.8	95.2	117.6	156.9	230.3	358.2	542.4	737.0
105°	86.2	88.4	92.1	100.9	114.2	135.6	171.0	232.1	335.4	483.4	656.7
107.5°	106.6	108.0	111.7	121.1	133.8	155.0	187.4	243.1	331.2	450.4	591.8
110°	120.2	121.6	125.3	134.1	147.4	167.3	199.7	251.3	332.3	439.2	559.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	133.1	134.6	138.8	147.1	160.3	180.3	211.5	260.1	335.9	433.9	541.1
115°	151.8	154.0	159.2	166.5	180.6	200.5	230.0	274.2	342.7	431.1	524.0
117.5°	171.3	173.3	178.0	186.1	199.2	219.8	247.8	288.4	350.0	430.4	516.3
120°	184.3	185.7	190.9	199.0	211.5	232.1	260.1	298.5	355.2	430.4	512.2
122.5°	196.0	197.6	202.6	210.2	223.9	243.9	271.9	307.9	360.5	429.8	507.5
125°	211.5	214.4	218.9	227.0	241.0	261.6	288.1	322.1	368.5	429.0	499.6
127.5°	225.3	227.6	232.9	242.1	256.7	277.6	303.2	334.3	374.8	427.3	489.2
130°	232.9	235.8	241.8	252.8	266.8	288.1	313.2	342.0	379.6	426.7	482.8
132.5°	240.5	242.9	250.6	261.1	276.3	296.4	321.5	349.6	383.7	426.1	476.8
135°	251.3	254.3	261.6	274.2	289.6	308.8	333.1	359.7	389.8	425.3	468.0
137.5°	262.1	264.9	273.0	284.9	301.0	319.2	342.0	366.7	393.5	425.1	460.3
140°	269.8	271.9	280.0	292.6	308.0	325.7	347.9	371.5	396.5	424.5	456.2
142.5°	278.0	280.2	287.8	299.6	314.5	331.7	353.2	374.9	398.9	424.5	452.7
145°	289.6	291.8	299.3	309.5	323.6	339.8	358.9	378.8	400.2	423.0	446.6
147.5°	302.7	303.5	310.0	320.6	332.2	346.9	364.9	382.2	401.0	420.4	441.2
150°	311.0	311.8	317.6	326.5	337.5	351.6	367.8	384.0	401.0	418.6	437.1
152.5°	318.7	318.9	324.7	333.0	342.9	355.7	370.1	385.1	399.7	415.7	432.3
155°	329.4	330.2	334.6	342.0	350.1	361.1	373.6	386.2	397.9	411.2	425.3
157.5°	339.9	339.9	344.0	349.8	356.8	365.5	376.2	386.2	396.1	406.7	418.0
160°	346.4	346.4	349.3	354.5	360.4	368.5	377.3	386.2	394.3	403.1	412.7
162.5°	352.3	351.7	354.0	358.6	363.9	370.2	378.5	386.2	392.6	399.6	408.0
165°	358.9	358.9	360.4	364.1	367.8	372.2	378.8	384.7	389.2	394.3	400.2
167.5°	365.5	364.9	365.5	368.3	370.4	373.8	378.7	383.0	385.6	389.0	393.1
170°	368.5	367.8	368.5	370.7	372.2	374.4	378.1	381.7	383.2	385.4	388.4
172.5°	371.5	370.7	370.9	372.5	373.3	374.9	377.5	380.6	380.9	381.9	384.3
175°	374.4	373.6	373.6	374.4	375.1	375.1	376.6	378.8	378.1	378.1	379.6
177.5°	375.7	375.1	374.6	375.1	375.1	375.1	375.7	376.9	375.7	375.7	376.3
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1



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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°	31.6	31.7	31.9	31.9	32.0	32.1	32.0	32.0
90°	13.3	14.0	14.7	14.7	15.5	16.2	15.5	15.5
92.5°	144.8	109.0	86.7	71.9	63.2	59.3	56.7	56.7
95°	546.1	431.9	333.1	261.6	225.6	202.6	189.5	179.8
97.5°	806.8	764.4	692.3	615.4	562.5	518.1	496.0	480.7
100°	888.8	903.5	867.4	812.9	748.8	703.8	681.7	675.8
102.5°	884.7	957.8	968.3	945.6	906.3	873.6	850.4	845.6
105°	825.5	952.9	1025.9	1056.1	1057.6	1051.7	1041.4	1037.0
107.5°	741.3	877.0	979.8	1045.5	1081.9	1098.7	1106.1	1108.0
110°	690.6	818.0	924.9	1006.0	1058.3	1089.3	1102.6	1109.2



TEST NUMBER: P332696-830

CATALOG NUMBER: SA4XXDIP-C1195D810U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	653.5	766.2	867.1	948.2	1007.6	1045.1	1063.7	1074.4
115°	616.1	706.8	793.0	863.7	922.0	966.2	989.8	995.7
117.5°	597.9	672.9	740.6	800.7	850.4	887.5	911.3	916.0
120°	589.6	658.2	717.1	769.4	811.4	843.9	863.0	871.1
122.5°	582.5	648.7	702.4	748.2	783.7	811.4	827.6	835.8
125°	570.4	633.9	684.7	725.2	754.7	776.1	790.0	794.5
127.5°	555.7	616.2	666.9	705.5	735.1	754.1	765.9	770.3
130°	543.9	602.1	652.2	691.3	721.5	740.0	751.8	756.2
132.5°	531.5	586.2	635.2	674.2	703.8	724.6	735.8	740.3
135°	514.4	562.3	607.3	644.1	673.6	694.3	706.1	710.5
137.5°	499.0	539.5	577.4	610.7	638.2	658.6	668.3	673.6
140°	490.1	524.7	557.9	588.9	614.6	630.8	641.2	647.1
142.5°	481.8	512.4	540.8	567.6	590.5	605.5	614.6	618.8
145°	470.2	495.3	517.4	538.0	556.5	568.9	576.4	580.0
147.5°	460.6	480.5	498.2	514.4	528.0	538.8	544.3	545.6
150°	454.7	471.6	486.4	499.6	511.5	521.0	525.5	526.2
152.5°	448.3	462.8	476.4	487.3	497.3	505.1	507.7	508.5
155°	438.5	450.3	461.4	470.2	477.6	483.4	485.7	485.7
157.5°	428.0	437.9	447.2	454.3	459.9	464.3	465.6	465.6
160°	421.6	429.7	437.8	443.7	448.1	452.5	453.3	453.3
162.5°	415.1	422.0	428.4	433.7	436.9	441.3	442.1	441.5
165°	406.0	410.5	415.7	419.3	422.3	425.3	424.5	423.8
167.5°	397.4	400.8	404.9	407.1	408.6	410.5	410.4	409.7
170°	392.1	394.3	397.3	399.4	401.0	401.6	401.0	401.0
172.5°	387.4	389.0	390.8	392.4	393.2	394.0	393.2	392.1
175°	381.1	381.7	383.2	383.2	383.2	384.7	383.2	381.7
177.5°	376.9	377.5	377.5	378.1	377.5	378.1	376.9	375.7
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1

(END OF REPORT)