

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: P332988-940

Luminaire Tested: **SA4XXRDIP-C1195D365U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332988-940  
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-C1195D365U940-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

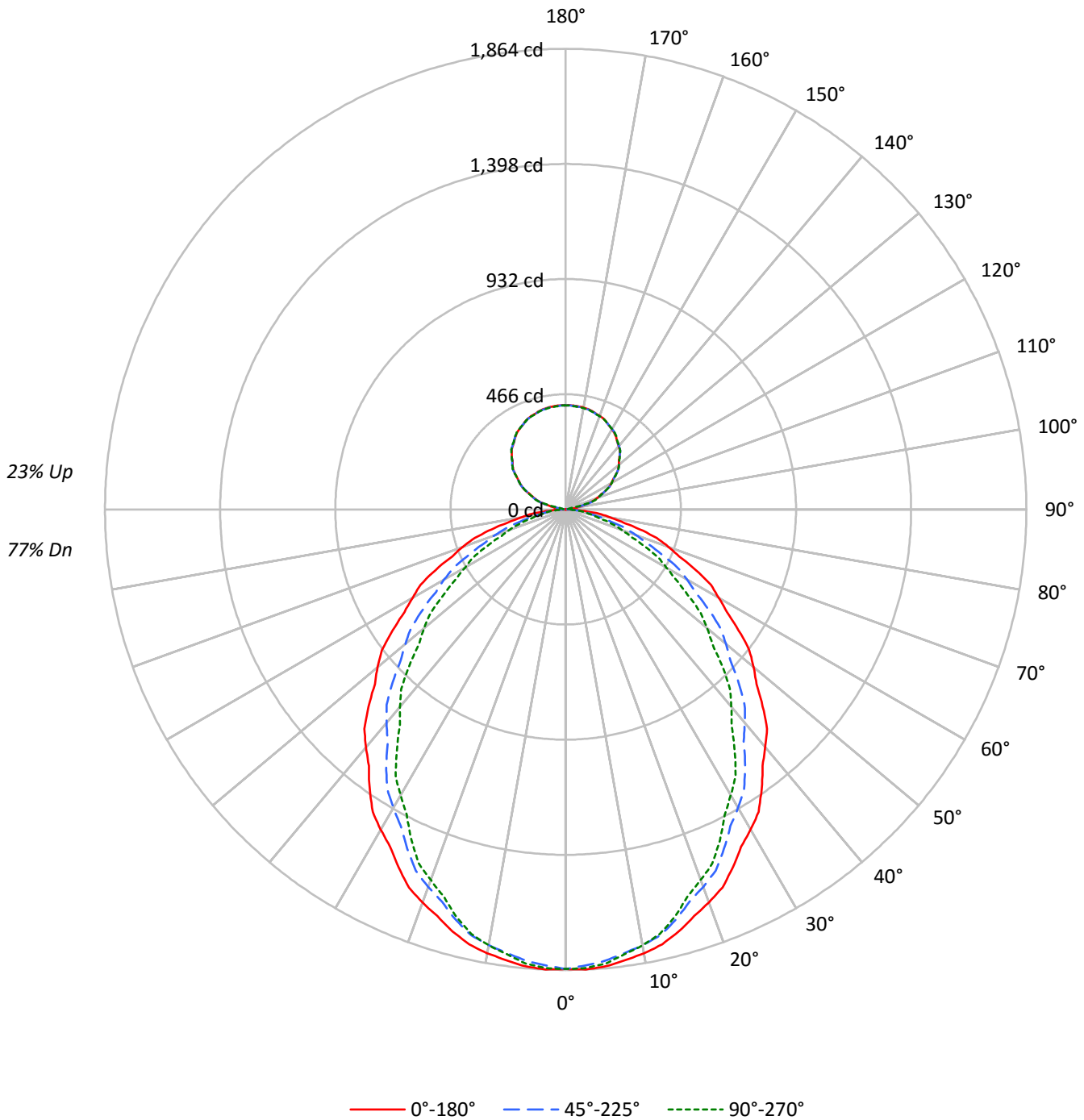
Lumens per Lamp: N/A  
Luminaire Lumens: 5601.0 lumens  
Efficiency: N/A  
Efficacy: 112.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 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	50	30	10	0	
RCR																						
0	114	114	114	114	108	108	108	108	98	98	98	89	89	89	81	81	81	77				77
1	104	100	96	92	99	95	92	89	87	84	82	79	77	75	72	70	69				66	
2	95	88	82	76	91	84	78	74	77	72	68	70	67	63	64	61	59				56	
3	87	78	70	64	83	74	67	62	68	63	58	62	58	54	57	53	50				47	
4	80	69	61	55	76	66	59	53	61	55	50	56	51	47	51	47	44				41	
5	74	62	53	47	70	59	52	46	55	48	43	50	45	41	46	42	38				36	
6	68	56	47	41	65	54	46	40	50	43	38	46	40	36	42	38	34				32	
7	63	51	42	37	60	49	41	36	45	39	34	42	36	32	39	34	30				28	
8	59	46	38	33	56	45	37	32	41	35	30	38	33	29	36	31	27				25	
9	55	42	35	29	52	41	34	29	38	32	27	35	30	26	33	28	25				23	
10	52	39	32	27	49	38	31	26	35	29	25	33	28	24	31	26	23				21	

**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	3.1
10°-20°	487.1	8.7
20°-30°	703.4	12.6
30°-40°	797.3	14.2
40°-50°	770.0	13.7
50°-60°	640.3	11.4
60°-70°	442.1	7.9
70°-80°	224.1	4.0
80°-90°	58.7	1.0
90°-100°	14.4	0.3
100°-110°	91.9	1.6
110°-120°	175.8	3.1
120°-130°	223.1	4.0
130°-140°	238.7	4.3
140°-150°	223.2	4.0
150°-160°	180.0	3.2
160°-170°	116.1	2.1
170°-180°	40.0	0.7
0°-30°	1365.2	24.4
0°-40°	2162.6	38.6
0°-60°	3572.8	63.8
0°-90°	4297.7	76.7
90°-120°	282.1	5.0
90°-150°	967.2	17.3
90°-180°	1303.0	23.3
0°-180°	5601.0	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	86
90°	1	4	7	9	10	4
95°	17	7	7	9	9	22
105°	95	97	98	100	90	99
115°	177	178	178	178	178	174
125°	249	250	250	250	251	222
135°	309	309	310	310	311	238
145°	356	357	357	357	358	222
155°	390	391	390	391	390	180
165°	412	410	410	413	410	116
175°	421	420	420	422	419	40
180°	421	421	421	421	421	



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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°	26.4	24.5	22.6	20.8	18.9	17.9	17.7	17.7	17.5	17.3	17.1
90°	1.0	1.7	2.5	3.3	4.0	4.7	5.3	5.8	6.3	7.0	7.3
92.5°	4.0	4.0	4.0	4.1	4.1	4.5	5.0	5.5	6.2	6.7	7.1
95°	17.3	15.0	12.6	10.2	7.8	6.7	6.7	6.8	6.9	7.0	7.3
97.5°	36.8	38.3	39.8	41.3	42.7	39.6	31.7	24.0	16.1	8.3	8.4
100°	51.7	53.0	54.2	55.5	56.7	52.5	42.9	33.2	23.5	13.9	12.7
102.5°	68.3	69.3	70.2	71.1	72.1	71.9	70.6	69.4	68.0	66.8	53.9
105°	94.9	95.2	95.7	96.1	96.6	96.9	97.3	97.6	98.0	98.4	99.0
107.5°	119.5	119.7	119.9	120.1	120.4	120.6	121.2	121.6	122.1	122.6	122.9
110°	136.2	136.3	136.5	136.8	137.0	137.3	137.7	138.1	138.6	139.0	139.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	152.3	152.7	153.0	153.4	153.8	154.1	154.3	154.4	154.6	154.9	154.8
115°	177.1	177.4	177.5	177.7	178.0	178.0	178.0	177.9	177.8	177.7	177.9
117.5°	199.5	199.7	200.0	200.4	200.6	200.8	201.0	201.2	201.3	201.4	201.4
120°	214.6	214.9	215.2	215.4	215.7	215.8	215.8	215.7	215.6	215.5	215.7
122.5°	228.7	228.9	229.1	229.3	229.4	229.5	229.6	229.7	229.8	230.0	230.0
125°	249.0	249.2	249.5	249.8	250.1	250.1	250.0	249.9	249.8	249.6	249.8
127.5°	268.1	268.2	268.2	268.3	268.4	268.6	268.9	269.2	269.6	269.9	269.8
130°	280.4	280.5	280.6	280.7	280.8	280.9	281.1	281.3	281.5	281.8	281.8
132.5°	291.9	291.9	292.0	292.2	292.3	292.5	292.7	293.0	293.3	293.6	293.6
135°	308.8	308.8	308.7	308.6	308.5	308.6	309.0	309.2	309.5	309.8	310.0
137.5°	323.9	324.0	324.0	324.0	324.0	324.2	324.5	324.8	325.1	325.4	325.6
140°	333.8	333.9	334.0	334.1	334.3	334.4	334.6	334.7	334.8	335.0	335.2
142.5°	342.6	342.8	343.0	343.3	343.6	343.8	343.8	343.9	344.0	344.1	344.2
145°	356.1	356.3	356.5	356.8	357.0	357.0	357.0	357.0	357.0	357.0	357.1
147.5°	366.8	367.3	367.7	368.1	368.5	368.6	368.5	368.5	368.4	368.4	368.4
150°	374.7	375.0	375.2	375.6	375.9	375.9	375.9	375.8	375.7	375.7	375.7
152.5°	381.3	381.5	381.7	381.9	382.2	382.2	382.1	381.9	381.8	381.7	381.8
155°	390.5	390.6	390.6	390.7	390.7	390.7	390.5	390.2	390.0	389.9	390.1
157.5°	398.2	398.1	398.1	398.1	398.1	397.9	397.7	397.4	397.2	397.0	397.3
160°	402.8	402.5	402.3	402.2	401.9	401.8	401.7	401.6	401.5	401.4	401.9
162.5°	406.8	406.5	406.3	406.0	405.7	405.6	405.5	405.4	405.4	405.3	405.7
165°	411.9	411.5	411.2	410.8	410.5	410.3	410.3	410.3	410.3	410.3	410.9
167.5°	415.9	415.5	415.2	414.8	414.5	414.3	414.2	414.2	414.1	414.1	414.7
170°	418.2	417.8	417.3	417.0	416.5	416.3	416.4	416.5	416.5	416.6	417.1
172.5°	419.7	419.3	418.8	418.5	418.0	417.9	417.9	418.0	418.0	418.1	418.7
175°	421.3	420.9	420.5	420.1	419.6	419.5	419.5	419.6	419.7	419.7	420.4
177.5°	422.1	421.7	421.3	420.9	420.5	420.4	420.5	420.6	420.7	420.8	421.3
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3



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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°	17.0	16.9	16.7	16.7	17.0	17.3	17.6	17.8
90°	7.8	8.2	8.6	8.9	9.0	9.2	9.3	9.5
92.5°	7.5	7.9	8.4	8.6	8.6	8.6	8.6	8.7
95°	7.8	8.2	8.6	8.8	8.9	9.0	9.1	9.1
97.5°	8.4	8.5	8.5	8.6	8.6	8.6	8.7	8.8
100°	11.5	10.3	9.1	8.6	8.6	8.6	8.7	8.8
102.5°	41.1	28.3	15.4	9.0	9.0	9.0	9.1	9.1
105°	99.6	100.2	100.9	99.9	97.4	94.9	92.3	89.8
107.5°	123.2	123.5	123.9	124.1	124.4	124.7	124.9	125.2
110°	139.3	139.4	139.6	139.7	139.9	140.2	140.4	140.5





TEST NUMBER: P332988-940

CATALOG NUMBER: SA4XXRDIP-C1195D365U940-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	154.8	154.8	154.7	154.9	155.2	155.4	155.7	156.0
115°	178.0	178.2	178.3	178.3	178.3	178.3	178.3	178.3
117.5°	201.3	201.3	201.3	201.3	201.3	201.3	201.3	201.2
120°	215.8	216.0	216.2	216.2	216.0	215.8	215.7	215.5
122.5°	230.1	230.2	230.2	230.2	230.1	230.0	229.8	229.7
125°	250.0	250.2	250.4	250.6	250.7	250.7	250.7	250.8
127.5°	269.8	269.7	269.7	269.7	269.7	269.6	269.5	269.5
130°	281.9	282.0	282.0	282.0	282.0	282.0	282.0	282.0
132.5°	293.7	293.8	293.9	293.9	293.8	293.7	293.7	293.6
135°	310.0	310.2	310.3	310.5	310.6	310.8	310.9	311.0
137.5°	325.7	325.9	326.0	326.1	326.0	326.0	325.9	325.9
140°	335.4	335.6	335.8	336.0	336.1	336.1	336.2	336.3
142.5°	344.4	344.6	344.6	344.7	344.8	344.8	344.8	344.8
145°	357.2	357.3	357.3	357.4	357.6	357.8	357.8	358.0
147.5°	368.5	368.5	368.5	368.6	368.7	368.7	368.8	368.9
150°	375.7	375.7	375.7	375.7	375.8	375.9	375.9	375.9
152.5°	381.9	382.0	382.2	382.2	382.1	382.1	382.1	382.0
155°	390.4	390.7	390.9	391.0	390.7	390.6	390.4	390.1
157.5°	397.7	398.1	398.4	398.4	398.1	397.7	397.3	397.0
160°	402.3	402.8	403.1	403.1	402.8	402.3	401.9	401.4
162.5°	406.1	406.5	407.0	406.9	406.4	406.0	405.5	405.0
165°	411.4	412.0	412.6	412.5	411.9	411.3	410.6	410.0
167.5°	415.4	416.0	416.5	416.5	415.8	415.1	414.4	413.8
170°	417.8	418.3	418.8	418.7	418.1	417.4	416.7	416.0
172.5°	419.3	419.8	420.4	420.3	419.5	418.7	418.0	417.2
175°	421.1	421.7	422.3	422.2	421.3	420.5	419.6	418.8
177.5°	421.8	422.2	422.7	422.5	421.9	421.2	420.5	419.8
180°	421.3	421.3	421.3	421.3	421.3	421.3	421.3	421.3

(END OF REPORT)