

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: P332678-940

Luminaire Tested: **SA4XXDIP-C1195D365U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332678-940  
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-C1195D365U940-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

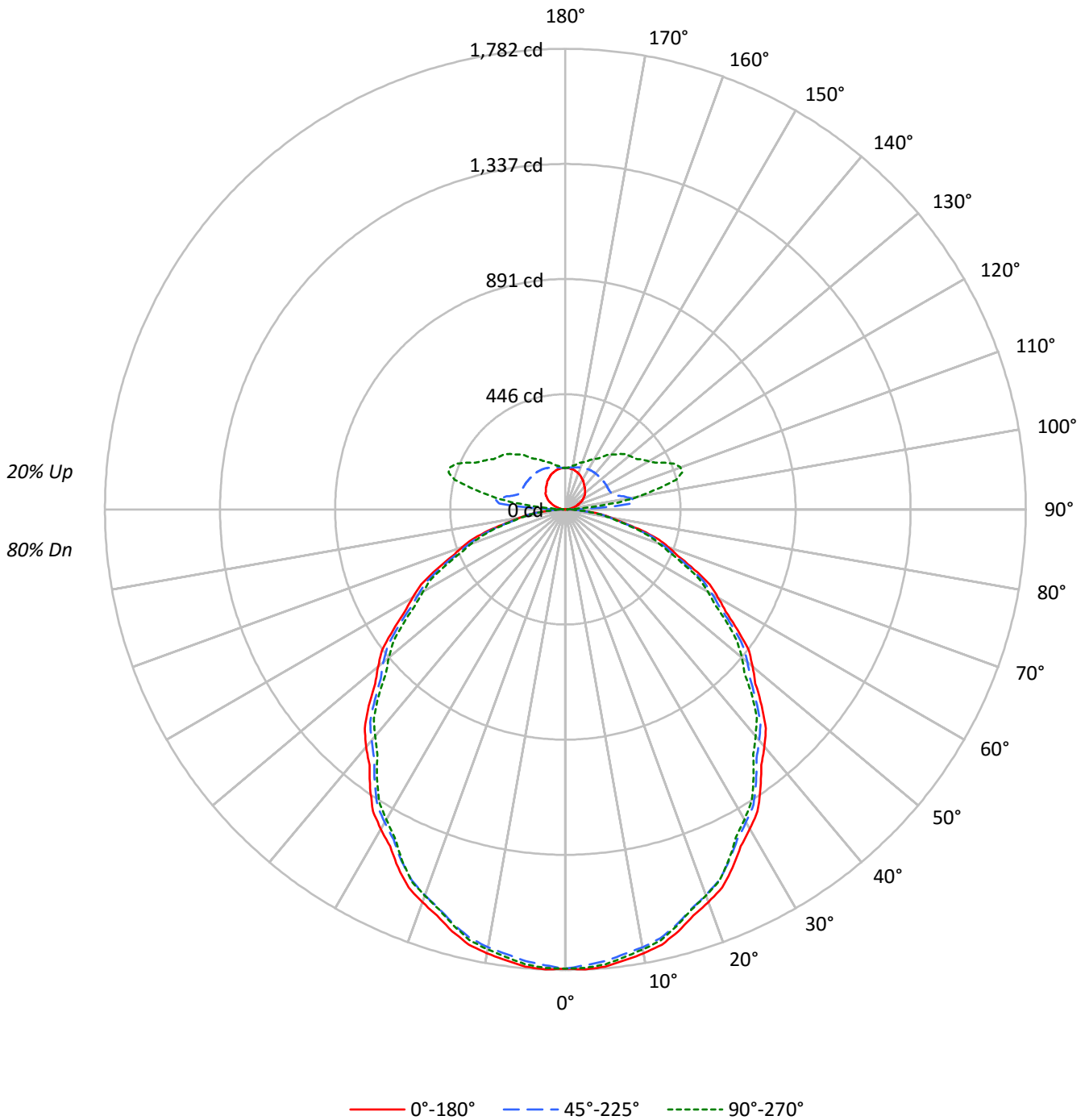
Lumens per Lamp: N/A  
Luminaire Lumens: 5727.7 lumens  
Efficiency: N/A  
Efficacy: 115.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	91	91	91	83	83	83	80
1	104	100	96	92	100	96	92	89	88	85	82	80	78	76	74	72	70	67
2	95	87	81	75	91	84	78	73	77	72	68	71	67	64	65	62	59	56
3	87	77	69	63	83	74	67	61	68	62	57	62	58	54	57	54	50	47
4	80	68	60	53	76	65	58	52	60	54	49	56	50	46	51	47	43	41
5	73	61	52	46	70	59	51	45	54	48	42	50	45	40	46	42	38	35
6	68	55	46	40	64	53	45	39	49	42	37	45	40	35	42	37	33	31
7	63	50	41	35	60	48	40	35	45	38	33	41	36	31	38	34	30	28
8	58	45	37	32	56	44	36	31	41	34	29	38	32	28	35	30	27	25
9	54	41	34	28	52	40	33	28	37	31	27	35	29	25	33	28	24	22
10	51	38	31	26	49	37	30	25	35	28	24	32	27	23	30	26	22	20

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	14346	14346	14346
5°	14389	14216	14319
10°	14299	14100	14170
15°	14125	13900	13936
20°	13897	13651	13664
25°	13635	13367	13331
30°	13313	13035	12915
35°	12980	12686	12518
40°	12635	12290	12064
45°	12273	11900	11671
50°	11875	11552	11195
55°	11444	11102	10742
60°	11013	10598	10277
65°	10527	10118	9712
70°	9982	9477	9106
75°	9148	8706	8484
80°	8140	7810	7610
85°	7123	6854	6725



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.3	2.9
10°-20°	471.5	8.2
20°-30°	694.0	12.1
30°-40°	806.8	14.1
40°-50°	806.8	14.1
50°-60°	705.8	12.3
60°-70°	524.1	9.2
70°-80°	297.8	5.2
80°-90°	86.8	1.5
90°-100°	115.9	2.0
100°-110°	241.1	4.2
110°-120°	216.0	3.8
120°-130°	181.7	3.2
130°-140°	151.5	2.6
140°-150°	115.7	2.0
150°-160°	81.3	1.4
160°-170°	47.8	0.8
170°-180°	15.6	0.3
0°-30°	1332.9	23.3
0°-40°	2139.7	37.4
0°-60°	3652.3	63.8
0°-90°	4561.0	79.6
90°-120°	573.0	10.0
90°-150°	1021.9	17.8
90°-180°	1167.0	20.4
0°-180°	5727.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1777	1777	1777	1777	1777	
5°	1776	1769	1754	1769	1767	168
15°	1690	1684	1663	1671	1667	476
25°	1531	1520	1501	1502	1497	704
35°	1317	1307	1287	1277	1270	823
45°	1075	1064	1042	1027	1022	828
55°	813	808	789	772	763	728
65°	551	544	530	516	508	545
75°	293	286	279	274	272	312
85°	77	77	74	74	73	85
90°	0	2	6	6	7	5
95°	10	33	257	127	77	12
105°	37	53	207	445	443	39
115°	65	81	184	354	426	64
125°	90	108	183	301	340	80
135°	108	128	182	268	304	83
145°	124	142	181	226	248	78
155°	141	152	176	199	208	65
165°	154	158	169	178	181	43
175°	160	160	162	164	163	15
180°	160	160	160	160	160	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0
2.5°	1781.5	1780.8	1780.0	1779.3	1778.5	1776.7	1774.0	1771.2	1768.4	1765.7	1768.2
5°	1775.6	1774.3	1773.1	1771.8	1770.6	1768.2	1764.7	1761.2	1757.7	1754.3	1757.7
7.5°	1759.1	1757.8	1756.6	1755.2	1754.0	1751.5	1747.6	1743.7	1739.9	1736.0	1738.8
10°	1744.3	1743.0	1741.8	1740.4	1739.2	1736.5	1732.4	1728.3	1724.2	1720.1	1722.6
12.5°	1724.9	1723.7	1722.3	1721.1	1719.8	1717.0	1712.7	1708.3	1704.0	1699.6	1702.4
15°	1690.1	1688.9	1687.7	1686.4	1685.1	1682.1	1677.3	1672.6	1667.9	1663.1	1665.0
17.5°	1648.3	1646.7	1645.1	1643.6	1642.0	1639.0	1634.4	1630.0	1625.5	1621.0	1622.2
20°	1617.6	1616.0	1614.4	1612.8	1611.2	1608.0	1603.3	1598.6	1593.8	1589.0	1590.0
22.5°	1584.5	1582.4	1580.4	1578.2	1576.2	1572.7	1568.0	1563.3	1558.5	1553.7	1555.5
25°	1530.7	1528.5	1526.3	1524.0	1521.8	1518.5	1514.0	1509.7	1505.2	1500.7	1501.1
27.5°	1469.2	1466.9	1464.6	1462.3	1460.1	1456.9	1452.8	1448.7	1444.6	1440.4	1439.7
30°	1428.2	1425.7	1423.1	1420.6	1418.1	1414.7	1410.6	1406.5	1402.4	1398.3	1397.0
32.5°	1384.9	1382.6	1380.4	1378.0	1375.7	1372.4	1368.1	1363.7	1359.3	1355.0	1353.4
35°	1317.1	1314.9	1312.7	1310.5	1308.2	1304.9	1300.5	1296.1	1291.6	1287.2	1285.0
37.5°	1245.6	1243.6	1241.6	1239.6	1237.5	1234.1	1229.4	1224.7	1219.9	1215.1	1212.7
40°	1198.9	1196.4	1193.8	1191.3	1188.8	1185.2	1180.4	1175.6	1170.9	1166.2	1163.0
42.5°	1148.8	1147.3	1145.8	1144.2	1142.7	1139.3	1134.1	1128.8	1123.6	1118.3	1114.6
45°	1075.0	1072.8	1070.6	1068.4	1066.2	1062.6	1057.5	1052.4	1047.3	1042.3	1038.8
47.5°	997.8	996.3	994.8	993.3	991.8	988.7	984.0	979.4	974.6	970.0	966.1
50°	945.5	944.2	942.9	941.6	940.4	937.5	933.1	928.7	924.3	919.8	915.4
52.5°	894.2	892.7	891.2	889.7	888.1	885.0	880.4	875.7	871.0	866.3	862.4
55°	813.1	812.1	811.2	810.2	809.2	806.6	802.1	797.7	793.3	788.8	785.1
57.5°	735.6	734.5	733.4	732.4	731.3	728.5	724.2	719.8	715.4	711.1	707.5
60°	682.1	680.5	678.9	677.3	675.7	672.9	668.8	664.7	660.5	656.4	653.5
62.5°	629.6	628.3	627.0	625.6	624.4	621.5	617.2	612.8	608.4	604.0	601.5
65°	551.1	549.5	547.9	546.3	544.7	542.3	539.2	536.0	532.9	529.7	526.6
67.5°	471.9	470.5	469.0	467.5	466.1	463.8	460.7	457.7	454.7	451.7	448.6
70°	422.9	420.7	418.5	416.3	414.0	411.7	409.1	406.6	404.0	401.5	399.0
72.5°	370.5	368.3	366.0	363.8	361.7	359.5	357.5	355.4	353.5	351.4	349.4
75°	293.3	291.8	290.2	288.6	287.0	285.4	283.8	282.2	280.7	279.1	277.9
77.5°	219.5	218.8	218.2	217.5	216.8	215.7	214.4	212.9	211.6	210.2	209.8
80°	175.1	174.2	173.3	172.3	171.4	170.6	170.0	169.2	168.6	168.0	167.4
82.5°	131.9	131.4	131.0	130.5	130.1	129.8	129.7	129.6	129.4	129.3	128.9
85°	76.9	76.9	76.9	76.9	76.9	76.6	76.0	75.3	74.6	74.0	74.0
87.5°	29.7	29.5	29.5	29.3	29.1	28.9	29.0	28.7	28.6	28.4	28.4
90°	0.4	1.0	1.9	2.2	2.5	2.5	4.4	4.4	5.1	5.7	5.4
92.5°	3.6	5.3	8.2	12.0	16.7	23.2	39.2	63.7	87.5	100.0	83.3
95°	10.4	11.3	14.5	18.6	26.1	39.4	66.8	118.5	193.9	256.8	264.1
97.5°	18.6	18.6	21.4	25.1	31.7	42.7	63.8	106.6	181.4	270.5	331.8
100°	24.0	24.0	26.1	30.0	35.9	46.0	64.6	100.2	164.5	253.4	334.0
102.5°	29.0	29.5	31.5	35.0	40.8	50.3	67.1	98.4	153.2	231.9	315.1
105°	36.9	37.8	39.4	43.2	48.9	58.0	73.1	99.2	143.4	206.7	280.8
107.5°	45.6	46.2	47.8	51.8	57.2	66.3	80.1	104.0	141.6	192.6	253.1
110°	51.4	52.0	53.6	57.3	63.0	71.5	85.4	107.5	142.1	187.8	239.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	56.9	57.5	59.4	62.9	68.6	77.0	90.4	111.3	143.7	185.6	231.4
115°	64.9	65.9	68.0	71.2	77.2	85.7	98.4	117.3	146.5	184.4	224.1
117.5°	73.2	74.1	76.1	79.5	85.2	94.0	105.9	123.3	149.6	184.0	220.8
120°	78.8	79.5	81.6	85.1	90.4	99.2	111.3	127.6	151.9	184.0	219.0
122.5°	83.8	84.4	86.7	89.9	95.8	104.3	116.3	131.7	154.2	183.8	217.0
125°	90.4	91.7	93.6	97.1	103.1	111.9	123.2	137.7	157.6	183.4	213.7
127.5°	96.3	97.3	99.6	103.5	109.8	118.7	129.7	142.9	160.3	182.7	209.2
130°	99.6	100.9	103.3	108.1	114.0	123.2	133.9	146.2	162.3	182.4	206.4
132.5°	102.9	103.9	107.2	111.6	118.2	126.7	137.5	149.5	164.1	182.3	203.9
135°	107.5	108.7	111.9	117.3	123.9	132.1	142.4	153.8	166.7	181.8	200.1
137.5°	112.1	113.2	116.7	121.8	128.7	136.5	146.2	156.9	168.3	181.8	196.9
140°	115.4	116.3	119.8	125.1	131.7	139.3	148.7	158.8	169.5	181.6	195.1
142.5°	118.9	119.8	123.1	128.1	134.5	141.8	151.1	160.3	170.6	181.6	193.6
145°	123.9	124.8	128.0	132.3	138.4	145.3	153.5	162.0	171.1	180.9	191.0
147.5°	129.5	129.7	132.6	137.1	142.0	148.3	156.0	163.5	171.5	179.8	188.7
150°	133.0	133.3	135.8	139.6	144.4	150.3	157.3	164.2	171.5	179.0	186.9
152.5°	136.3	136.3	138.8	142.4	146.6	152.1	158.3	164.7	170.9	177.7	184.9
155°	140.9	141.2	143.1	146.2	149.7	154.4	159.8	165.1	170.2	175.8	181.8
157.5°	145.3	145.3	147.1	149.5	152.6	156.3	160.9	165.1	169.3	173.9	178.8
160°	148.1	148.1	149.4	151.6	154.1	157.6	161.4	165.1	168.6	172.4	176.5
162.5°	150.6	150.4	151.4	153.4	155.6	158.4	161.8	165.1	167.8	170.9	174.5
165°	153.5	153.5	154.1	155.7	157.3	159.2	162.0	164.5	166.4	168.6	171.1
167.5°	156.3	156.0	156.3	157.5	158.4	159.9	161.9	163.7	164.9	166.3	168.1
170°	157.6	157.3	157.6	158.5	159.2	160.1	161.7	163.3	163.9	164.8	166.1
172.5°	158.8	158.5	158.5	159.3	159.6	160.3	161.4	162.7	162.9	163.3	164.3
175°	160.1	159.8	159.8	160.1	160.4	160.4	161.0	162.0	161.7	161.7	162.3
177.5°	160.7	160.4	160.2	160.4	160.4	160.4	160.7	161.1	160.7	160.7	161.0
180°	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0	1777.0
2.5°	1770.7	1773.3	1775.8	1776.9	1776.6	1776.4	1776.1	1775.8
5°	1761.2	1764.7	1768.2	1769.6	1769.0	1768.4	1767.7	1767.0
7.5°	1741.6	1744.4	1747.1	1748.4	1748.0	1747.6	1747.2	1746.9
10°	1725.1	1727.7	1730.2	1731.2	1730.5	1729.9	1729.2	1728.6
12.5°	1705.1	1707.9	1710.7	1711.6	1710.7	1709.9	1709.0	1708.1
15°	1666.9	1668.8	1670.7	1671.2	1670.3	1669.3	1668.3	1667.4
17.5°	1623.4	1624.6	1625.8	1626.0	1625.4	1624.8	1624.2	1623.5
20°	1591.0	1591.9	1592.9	1593.0	1592.4	1591.8	1591.2	1590.5
22.5°	1557.2	1558.9	1560.6	1560.9	1559.8	1558.6	1557.5	1556.3
25°	1501.5	1501.7	1502.1	1501.6	1500.3	1499.1	1497.8	1496.6
27.5°	1438.9	1438.2	1437.3	1436.2	1434.6	1433.1	1431.5	1429.9
30°	1395.7	1394.5	1393.2	1391.8	1390.2	1388.7	1387.1	1385.5
32.5°	1351.9	1350.4	1348.9	1347.4	1345.8	1344.2	1342.6	1341.0
35°	1282.8	1280.6	1278.4	1276.5	1274.9	1273.3	1271.7	1270.2
37.5°	1210.3	1207.9	1205.5	1203.3	1201.2	1199.1	1197.0	1194.9
40°	1159.8	1156.6	1153.5	1151.1	1149.6	1148.0	1146.4	1144.8
42.5°	1111.0	1107.3	1103.7	1101.3	1100.2	1099.1	1098.1	1097.0
45°	1035.4	1031.9	1028.4	1026.2	1025.2	1024.2	1023.3	1022.3
47.5°	962.2	958.2	954.3	951.1	948.7	946.3	943.9	941.5
50°	911.0	906.5	902.1	898.9	897.1	895.2	893.2	891.4
52.5°	858.4	854.5	850.6	847.5	845.1	842.7	840.3	837.9
55°	781.2	777.5	773.6	770.8	768.9	767.0	765.1	763.2
57.5°	703.9	700.3	696.7	693.9	692.1	690.3	688.4	686.6
60°	650.7	647.9	645.1	642.8	641.2	639.6	638.1	636.5
62.5°	598.8	596.2	593.6	591.6	590.0	588.4	586.8	585.2
65°	523.3	520.2	517.0	514.7	513.1	511.5	509.9	508.4
67.5°	445.6	442.6	439.5	437.7	437.3	436.8	436.4	436.0
70°	396.5	394.0	391.4	389.7	388.7	387.8	386.8	385.8
72.5°	347.4	345.4	343.3	341.8	340.9	339.9	338.9	338.0
75°	276.5	275.3	274.0	273.2	273.0	272.6	272.2	272.0
77.5°	209.4	209.0	208.7	208.0	207.2	206.4	205.5	204.7
80°	166.7	166.1	165.5	165.1	164.7	164.3	164.1	163.7
82.5°	128.5	128.1	127.8	127.4	127.1	126.8	126.4	126.2
85°	74.0	74.0	74.0	73.9	73.6	73.2	72.9	72.6
87.5°	28.4	28.5	28.6	28.6	28.6	28.7	28.6	28.6
90°	5.7	6.0	6.3	6.3	6.6	7.0	6.6	6.6
92.5°	61.9	46.5	37.1	30.8	27.0	25.3	24.3	24.3
95°	233.5	184.7	142.4	111.9	96.4	86.7	81.0	76.9
97.5°	345.0	326.9	296.0	263.1	240.5	221.6	212.1	205.5
100°	380.0	386.4	371.0	347.6	320.2	301.0	291.5	289.0
102.5°	378.4	409.6	414.0	404.3	387.5	373.6	363.6	361.6
105°	352.9	407.5	438.7	451.7	452.3	449.7	445.3	443.4
107.5°	317.0	375.1	418.9	447.1	462.6	469.8	473.0	473.8
110°	295.3	349.8	395.6	430.2	452.5	465.8	471.4	474.3





TEST NUMBER: P332678-940

CATALOG NUMBER: SA4XXDIP-C1195D365U940-4F0-1E-UDD-F4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	279.4	327.6	370.8	405.5	430.9	446.9	454.9	459.4
115°	263.5	302.2	339.1	369.3	394.2	413.1	423.3	425.8
117.5°	255.7	287.8	316.7	342.4	363.6	379.5	389.7	391.6
120°	252.1	281.4	306.7	329.0	347.0	360.9	369.1	372.6
122.5°	249.1	277.4	300.3	319.9	335.1	347.0	353.9	357.4
125°	244.0	271.0	292.7	310.1	322.7	331.9	337.9	339.7
127.5°	237.6	263.5	285.3	301.7	314.3	322.4	327.5	329.4
130°	232.6	257.5	278.9	295.6	308.5	316.4	321.5	323.3
132.5°	227.3	250.7	271.6	288.3	301.0	309.9	314.7	316.6
135°	220.0	240.5	259.7	275.4	288.0	296.9	301.9	303.8
137.5°	213.4	230.7	246.9	261.1	273.0	281.6	285.8	288.0
140°	209.6	224.4	238.5	251.8	262.9	269.7	274.2	276.7
142.5°	206.1	219.1	231.2	242.7	252.5	259.0	262.9	264.6
145°	201.1	211.8	221.2	230.1	237.9	243.3	246.5	248.0
147.5°	197.0	205.5	213.0	220.0	225.8	230.4	232.7	233.4
150°	194.5	201.7	208.0	213.7	218.7	222.8	224.7	225.0
152.5°	191.7	198.0	203.8	208.4	212.7	216.0	217.1	217.5
155°	187.5	192.5	197.2	201.1	204.2	206.7	207.7	207.7
157.5°	183.1	187.3	191.3	194.3	196.6	198.6	199.1	199.1
160°	180.3	183.7	187.2	189.8	191.6	193.5	193.9	193.9
162.5°	177.5	180.5	183.2	185.5	186.8	188.7	189.0	188.8
165°	173.6	175.6	177.7	179.3	180.6	181.8	181.6	181.2
167.5°	170.0	171.4	173.2	174.1	174.7	175.6	175.5	175.2
170°	167.6	168.6	169.9	170.9	171.5	171.7	171.5	171.5
172.5°	165.7	166.3	167.1	167.8	168.2	168.4	168.2	167.6
175°	162.9	163.3	163.9	163.9	163.9	164.5	163.9	163.3
177.5°	161.1	161.4	161.4	161.7	161.4	161.7	161.1	160.7
180°	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4

(END OF REPORT)