

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: P332676-930

Luminaire Tested: **SA4XXDIP-C1195D365U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332676-930  
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: SA4XXDIP-C1195D365U930-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5362.1 lumens  
Efficiency: N/A  
Efficacy: 107.7 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

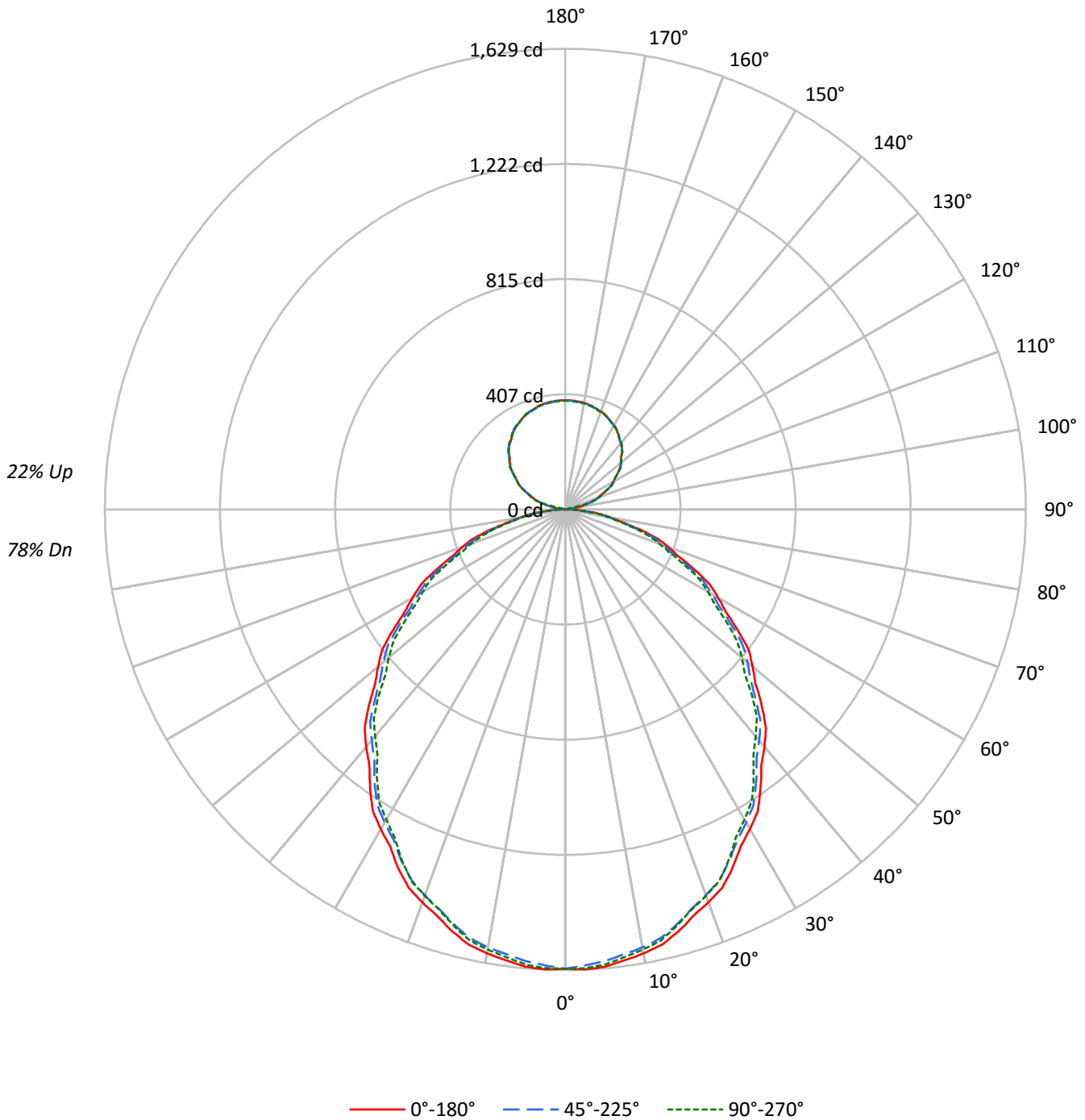
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	99	99	99	90	90	90	82	82	82	78
1	104	99	95	92	99	95	91	88	87	84	81	79	77	75	72	70	69	65
2	95	87	80	75	90	83	77	72	76	71	67	69	66	63	63	61	58	55
3	86	76	69	63	82	73	66	61	67	61	57	61	57	53	56	53	49	46
4	79	68	59	53	75	65	57	51	60	53	48	55	50	45	50	46	43	40
5	73	61	52	46	69	58	50	44	54	47	42	49	44	40	45	41	37	35
6	67	55	46	40	64	52	45	39	48	42	37	45	39	35	41	36	33	30
7	62	49	41	35	59	48	40	34	44	37	33	41	35	31	38	33	29	27
8	58	45	37	31	55	43	36	31	40	34	29	37	32	28	35	30	26	24
9	54	41	33	28	52	40	32	27	37	31	26	34	29	25	32	27	24	22
10	51	38	30	25	48	37	30	25	34	28	24	32	26	23	30	25	22	20

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

	0°	45°	90°
0°	13116	13116	13116
5°	13156	12998	13092
10°	13073	12892	12956
15°	12915	12709	12741
20°	12706	12482	12493
25°	12466	12222	12188
30°	12172	11918	11808
35°	11869	11599	11445
40°	11552	11236	11031
45°	11222	10880	10671
50°	10857	10562	10236
55°	10463	10151	9821
60°	10069	9689	9397
65°	9626	9251	8879
70°	9128	8665	8327
75°	8366	7960	7757
80°	7443	7141	6960
85°	6512	6271	6150



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.0	2.9
10°-20°	431.1	8.0
20°-30°	634.5	11.8
30°-40°	737.7	13.8
40°-50°	737.7	13.8
50°-60°	645.3	12.0
60°-70°	479.2	8.9
70°-80°	272.3	5.1
80°-90°	79.7	1.5
90°-100°	13.2	0.2
100°-110°	84.0	1.6
110°-120°	160.7	3.0
120°-130°	204.0	3.8
130°-140°	218.3	4.1
140°-150°	204.1	3.8
150°-160°	164.6	3.1
160°-170°	106.2	2.0
170°-180°	36.6	0.7
0°-30°	1218.6	22.7
0°-40°	1956.3	36.5
0°-60°	3339.3	62.3
0°-90°	4170.5	77.8
90°-120°	257.9	4.8
90°-150°	884.3	16.5
90°-180°	1192.0	22.2
0°-180°	5362.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1623	1618	1604	1617	1616	154
15°	1545	1539	1521	1528	1524	435
25°	1400	1390	1372	1373	1368	644
35°	1204	1195	1177	1168	1161	753
45°	983	973	953	939	935	757
55°	743	739	721	706	698	666
65°	504	497	484	472	465	499
75°	268	262	255	250	249	285
85°	70	70	68	68	66	77
90°	1	4	6	8	9	4
95°	16	7	6	8	8	20
105°	87	88	90	92	82	91
115°	162	163	162	163	163	159
125°	228	229	228	229	229	203
135°	282	282	283	284	284	217
145°	326	326	326	327	327	203
155°	357	357	356	357	357	165
165°	377	375	375	377	375	106
175°	385	384	384	386	383	37
180°	385	385	385	385	385	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1628.9	1628.2	1627.5	1626.8	1626.1	1624.5	1622.0	1619.4	1616.9	1614.4	1616.7
5°	1623.4	1622.3	1621.1	1620.0	1618.9	1616.7	1613.5	1610.3	1607.1	1603.9	1607.1
7.5°	1608.3	1607.2	1606.1	1604.8	1603.7	1601.4	1597.8	1594.3	1590.8	1587.2	1589.8
10°	1594.8	1593.7	1592.5	1591.3	1590.2	1587.7	1584.0	1580.2	1576.5	1572.7	1575.0
12.5°	1577.1	1576.0	1574.8	1573.6	1572.5	1569.9	1565.9	1562.0	1558.0	1554.0	1556.5
15°	1545.3	1544.2	1543.0	1541.9	1540.7	1538.0	1533.6	1529.3	1524.9	1520.6	1522.3
17.5°	1507.1	1505.6	1504.1	1502.8	1501.3	1498.5	1494.4	1490.3	1486.2	1482.1	1483.2
20°	1479.0	1477.5	1476.0	1474.6	1473.2	1470.2	1465.9	1461.6	1457.3	1452.9	1453.8
22.5°	1448.7	1446.8	1445.0	1443.0	1441.1	1437.9	1433.6	1429.3	1425.0	1420.6	1422.2
25°	1399.5	1397.5	1395.5	1393.4	1391.4	1388.4	1384.3	1380.3	1376.2	1372.1	1372.5
27.5°	1343.3	1341.2	1339.1	1337.0	1335.0	1332.0	1328.3	1324.5	1320.8	1317.0	1316.3
30°	1305.8	1303.5	1301.1	1298.9	1296.6	1293.5	1289.7	1286.0	1282.2	1278.5	1277.3
32.5°	1266.2	1264.1	1262.1	1260.0	1257.8	1254.8	1250.8	1246.8	1242.8	1238.8	1237.5
35°	1204.3	1202.2	1200.2	1198.2	1196.1	1193.1	1189.0	1185.0	1181.0	1176.9	1174.8
37.5°	1138.9	1137.0	1135.2	1133.3	1131.5	1128.4	1124.1	1119.7	1115.3	1111.0	1108.8
40°	1096.2	1093.9	1091.5	1089.2	1087.0	1083.6	1079.3	1074.9	1070.6	1066.2	1063.3
42.5°	1050.4	1049.0	1047.6	1046.2	1044.8	1041.7	1036.9	1032.1	1027.3	1022.5	1019.1
45°	982.9	980.9	978.8	976.8	974.9	971.5	966.9	962.2	957.6	953.0	949.8
47.5°	912.3	910.9	909.5	908.2	906.8	904.0	899.7	895.4	891.1	886.9	883.3
50°	864.5	863.3	862.1	861.0	859.8	857.2	853.1	849.1	845.1	841.0	837.0
52.5°	817.6	816.2	814.8	813.4	812.0	809.2	804.9	800.6	796.4	792.1	788.5
55°	743.4	742.5	741.7	740.8	739.9	737.4	733.4	729.4	725.3	721.2	717.8
57.5°	672.5	671.6	670.6	669.6	668.6	666.1	662.1	658.1	654.1	650.1	646.9
60°	623.6	622.2	620.7	619.3	617.8	615.2	611.5	607.7	603.9	600.1	597.5
62.5°	575.7	574.5	573.2	572.0	570.9	568.3	564.3	560.3	556.3	552.3	549.9
65°	503.9	502.4	500.9	499.5	498.1	495.9	493.0	490.1	487.2	484.3	481.4
67.5°	431.5	430.2	428.8	427.5	426.2	424.0	421.3	418.5	415.7	412.9	410.2
70°	386.7	384.7	382.6	380.6	378.5	376.4	374.1	371.8	369.4	367.1	364.8
72.5°	338.8	336.7	334.7	332.6	330.7	328.7	326.9	325.0	323.2	321.3	319.4
75°	268.2	266.8	265.3	263.8	262.4	261.0	259.5	258.0	256.7	255.2	254.0
77.5°	200.7	200.1	199.5	198.9	198.2	197.2	196.0	194.7	193.5	192.2	191.8
80°	160.1	159.2	158.4	157.5	156.7	156.0	155.4	154.7	154.2	153.6	153.0
82.5°	120.6	120.2	119.8	119.4	119.0	118.7	118.5	118.5	118.3	118.2	117.9
85°	70.3	70.3	70.3	70.3	70.3	70.0	69.5	68.9	68.2	67.7	67.7
87.5°	27.2	27.1	27.1	27.0	26.9	26.7	26.7	26.5	26.4	26.3	26.3
90°	0.9	1.5	2.3	3.0	3.7	4.3	4.8	5.3	5.8	6.4	6.7
92.5°	3.7	3.7	3.7	3.8	3.8	4.1	4.6	5.1	5.6	6.1	6.5
95°	15.8	13.7	11.5	9.3	7.2	6.1	6.1	6.2	6.3	6.4	6.7
97.5°	33.7	35.0	36.4	37.7	39.1	36.2	29.0	21.9	14.8	7.6	7.7
100°	47.3	48.4	49.6	50.7	51.9	48.0	39.2	30.3	21.5	12.7	11.6
102.5°	62.5	63.3	64.2	65.0	65.9	65.7	64.6	63.4	62.2	61.1	49.3
105°	86.7	87.1	87.5	87.9	88.3	88.6	88.9	89.3	89.6	89.9	90.5
107.5°	109.3	109.4	109.7	109.8	110.1	110.3	110.8	111.2	111.6	112.1	112.3
110°	124.5	124.7	124.8	125.1	125.2	125.6	125.9	126.3	126.7	127.1	127.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	139.3	139.6	139.9	140.2	140.6	140.9	141.0	141.2	141.4	141.6	141.5
115°	161.9	162.2	162.3	162.5	162.7	162.7	162.7	162.7	162.6	162.5	162.7
117.5°	182.4	182.6	182.9	183.2	183.4	183.6	183.8	183.9	184.0	184.2	184.2
120°	196.2	196.5	196.7	197.0	197.2	197.3	197.3	197.2	197.1	197.1	197.2
122.5°	209.1	209.3	209.5	209.6	209.8	209.9	209.9	210.0	210.1	210.3	210.3
125°	227.6	227.9	228.1	228.4	228.7	228.7	228.6	228.4	228.4	228.2	228.4
127.5°	245.2	245.2	245.2	245.3	245.4	245.6	245.9	246.1	246.5	246.8	246.7
130°	256.4	256.5	256.6	256.7	256.7	256.8	257.0	257.2	257.4	257.6	257.6
132.5°	266.8	266.9	267.0	267.2	267.3	267.4	267.7	267.9	268.2	268.4	268.5
135°	282.3	282.3	282.3	282.2	282.1	282.2	282.5	282.7	283.0	283.2	283.4
137.5°	296.1	296.2	296.2	296.2	296.3	296.4	296.7	296.9	297.3	297.5	297.7
140°	305.2	305.2	305.4	305.5	305.7	305.7	305.9	306.1	306.1	306.3	306.5
142.5°	313.2	313.4	313.6	313.9	314.1	314.3	314.4	314.5	314.5	314.6	314.7
145°	325.6	325.8	326.0	326.2	326.4	326.4	326.4	326.4	326.4	326.4	326.5
147.5°	335.4	335.8	336.1	336.6	336.9	337.0	337.0	336.9	336.8	336.8	336.8
150°	342.6	342.8	343.1	343.4	343.6	343.7	343.6	343.6	343.5	343.5	343.5
152.5°	348.6	348.8	349.0	349.2	349.4	349.4	349.4	349.2	349.1	349.0	349.1
155°	357.0	357.1	357.1	357.2	357.3	357.2	357.0	356.8	356.6	356.4	356.7
157.5°	364.1	364.0	364.0	363.9	363.9	363.8	363.6	363.4	363.1	363.0	363.3
160°	368.3	368.0	367.9	367.7	367.5	367.4	367.3	367.2	367.1	367.0	367.5
162.5°	371.9	371.7	371.5	371.2	371.0	370.8	370.7	370.6	370.6	370.6	371.0
165°	376.6	376.3	375.9	375.6	375.3	375.1	375.1	375.1	375.1	375.1	375.7
167.5°	380.3	379.9	379.6	379.3	379.0	378.8	378.7	378.7	378.6	378.6	379.2
170°	382.4	382.0	381.6	381.2	380.8	380.7	380.7	380.8	380.8	380.9	381.4
172.5°	383.8	383.4	382.9	382.6	382.2	382.0	382.1	382.2	382.2	382.3	382.8
175°	385.2	384.8	384.5	384.1	383.7	383.5	383.6	383.7	383.8	383.8	384.4
177.5°	386.0	385.6	385.2	384.8	384.5	384.3	384.5	384.6	384.7	384.7	385.2
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1618.9	1621.3	1623.6	1624.6	1624.4	1624.2	1623.9	1623.7
5°	1610.3	1613.5	1616.7	1618.0	1617.4	1616.8	1616.2	1615.6
7.5°	1592.4	1594.9	1597.4	1598.6	1598.2	1597.8	1597.5	1597.2
10°	1577.3	1579.6	1581.9	1582.8	1582.3	1581.7	1581.0	1580.5
12.5°	1559.0	1561.5	1564.2	1565.0	1564.2	1563.3	1562.5	1561.7
15°	1524.0	1525.8	1527.5	1528.0	1527.1	1526.2	1525.3	1524.5
17.5°	1484.3	1485.4	1486.5	1486.7	1486.1	1485.6	1485.0	1484.4
20°	1454.7	1455.5	1456.4	1456.5	1456.0	1455.4	1454.8	1454.2
22.5°	1423.8	1425.3	1426.9	1427.1	1426.1	1425.1	1424.0	1422.9
25°	1372.8	1373.0	1373.4	1372.9	1371.7	1370.6	1369.5	1368.3
27.5°	1315.6	1314.9	1314.2	1313.1	1311.7	1310.3	1308.8	1307.3
30°	1276.1	1275.0	1273.8	1272.5	1271.1	1269.7	1268.2	1266.7
32.5°	1236.1	1234.7	1233.3	1231.9	1230.4	1229.0	1227.6	1226.1
35°	1172.9	1170.9	1168.8	1167.1	1165.6	1164.2	1162.7	1161.3
37.5°	1106.6	1104.4	1102.2	1100.2	1098.3	1096.3	1094.5	1092.5
40°	1060.5	1057.5	1054.7	1052.5	1051.1	1049.6	1048.1	1046.7
42.5°	1015.8	1012.4	1009.1	1006.9	1005.9	1004.9	1004.0	1003.0
45°	946.6	943.5	940.3	938.2	937.3	936.5	935.6	934.7
47.5°	879.7	876.1	872.5	869.6	867.4	865.2	863.0	860.8
50°	832.9	828.8	824.8	821.9	820.2	818.5	816.7	815.0
52.5°	784.9	781.3	777.7	774.9	772.7	770.5	768.3	766.1
55°	714.3	710.9	707.4	704.7	703.0	701.3	699.5	697.8
57.5°	643.6	640.3	637.0	634.5	632.8	631.1	629.4	627.8
60°	594.9	592.4	589.8	587.7	586.3	584.8	583.4	582.0
62.5°	547.5	545.1	542.7	540.9	539.4	537.9	536.5	535.1
65°	478.5	475.6	472.7	470.6	469.1	467.7	466.2	464.8
67.5°	407.4	404.6	401.9	400.2	399.8	399.4	399.0	398.6
70°	362.5	360.2	357.8	356.3	355.4	354.6	353.7	352.8
72.5°	317.6	315.8	313.9	312.5	311.7	310.8	309.9	309.1
75°	252.8	251.7	250.5	249.8	249.6	249.2	248.9	248.7
77.5°	191.4	191.1	190.8	190.2	189.5	188.7	187.9	187.2
80°	152.5	151.9	151.3	150.9	150.6	150.3	150.0	149.7
82.5°	117.5	117.2	116.8	116.5	116.2	115.9	115.6	115.4
85°	67.7	67.7	67.7	67.6	67.3	66.9	66.7	66.4
87.5°	26.4	26.5	26.6	26.7	26.7	26.7	26.7	26.7
90°	7.1	7.5	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	6.8	7.3	7.7	7.8	7.9	7.9	7.9	8.0
95°	7.1	7.5	7.9	8.1	8.2	8.2	8.3	8.3
97.5°	7.7	7.7	7.7	7.8	7.9	7.9	8.0	8.1
100°	10.5	9.4	8.3	7.8	7.9	7.9	8.0	8.1
102.5°	37.6	25.8	14.1	8.2	8.2	8.2	8.3	8.3
105°	91.1	91.6	92.2	91.3	89.0	86.7	84.4	82.1
107.5°	112.7	112.9	113.2	113.5	113.7	114.0	114.2	114.5
110°	127.3	127.4	127.6	127.8	127.9	128.2	128.3	128.5





TEST NUMBER: P332676-930

CATALOG NUMBER: SA4XXDIP-C1195D365U930-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	141.5	141.5	141.5	141.6	141.9	142.1	142.4	142.6
115°	162.7	162.9	163.1	163.1	163.1	163.1	163.1	163.1
117.5°	184.1	184.1	184.1	184.0	184.0	184.0	184.0	183.9
120°	197.3	197.5	197.6	197.6	197.5	197.3	197.2	197.1
122.5°	210.3	210.4	210.5	210.5	210.3	210.3	210.1	210.0
125°	228.6	228.8	228.9	229.1	229.2	229.3	229.3	229.3
127.5°	246.7	246.6	246.6	246.5	246.5	246.5	246.4	246.4
130°	257.7	257.8	257.9	257.9	257.9	257.9	257.9	257.9
132.5°	268.6	268.6	268.7	268.7	268.6	268.6	268.6	268.5
135°	283.5	283.6	283.7	283.9	284.0	284.1	284.3	284.4
137.5°	297.8	298.0	298.1	298.2	298.1	298.1	298.0	298.0
140°	306.6	306.9	307.0	307.2	307.3	307.3	307.4	307.4
142.5°	314.9	315.0	315.1	315.2	315.3	315.3	315.3	315.3
145°	326.6	326.7	326.7	326.8	326.9	327.1	327.2	327.3
147.5°	336.9	337.0	337.0	337.0	337.1	337.1	337.2	337.3
150°	343.5	343.5	343.5	343.5	343.6	343.6	343.6	343.7
152.5°	349.2	349.3	349.4	349.4	349.4	349.4	349.4	349.3
155°	356.9	357.2	357.4	357.5	357.3	357.1	356.9	356.7
157.5°	363.6	363.9	364.3	364.3	363.9	363.6	363.3	363.0
160°	367.9	368.3	368.6	368.6	368.3	367.9	367.5	367.0
162.5°	371.3	371.7	372.1	372.0	371.6	371.2	370.7	370.3
165°	376.2	376.7	377.2	377.2	376.6	376.0	375.4	374.9
167.5°	379.8	380.3	380.8	380.8	380.2	379.5	378.9	378.3
170°	382.0	382.5	382.9	382.9	382.3	381.6	381.0	380.3
172.5°	383.4	383.8	384.3	384.3	383.6	382.9	382.2	381.5
175°	385.0	385.6	386.1	386.0	385.2	384.5	383.7	382.9
177.5°	385.6	386.0	386.5	386.3	385.7	385.1	384.5	383.8
180°	385.2	385.2	385.2	385.2	385.2	385.2	385.2	385.2

(END OF REPORT)