

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: P333758

Luminaire Tested: **SA2XXDP-C865D927-4F0-1E-UDD-A**

Issue Date: 10/11/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P333758  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-19)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 10/11/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDP-C865D927-4F0-1E-UDD-A  
Description: DEFINE 2 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER  
PENDANT/SURFACE/WALL MOUNT, 865 LUMENS PER FOOT  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

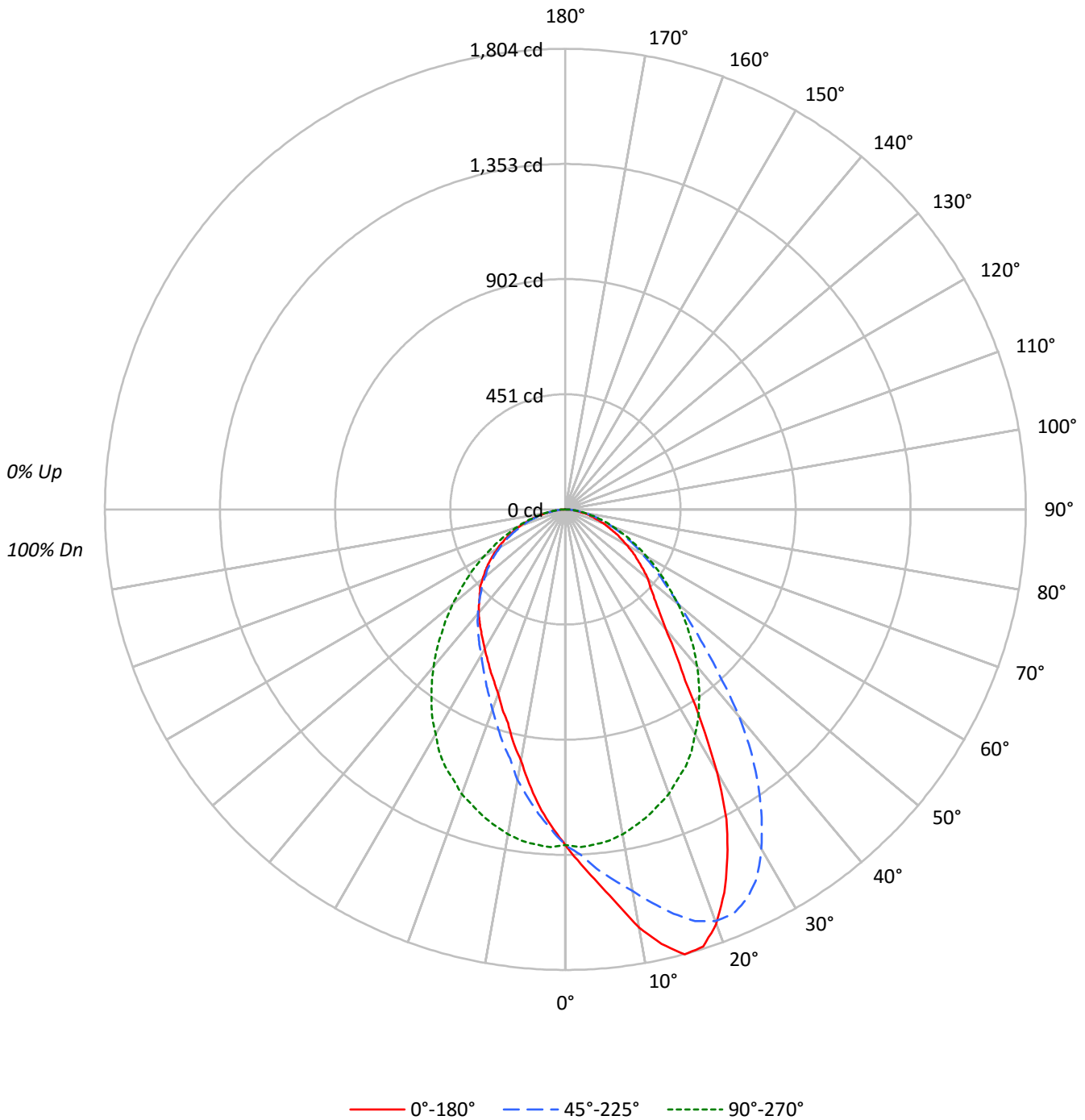
Lumens per Lamp: N/A  
Luminaire Lumens: 2899.7 lumens  
Efficiency: N/A  
Efficacy: 83.3 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23  
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.8  
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	51	46	55	50	45	43
7	69	56	48	42	67	55	47	42	54	46	41	52	46	41	51	45	41	39
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

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

	0°	90°	180°
0°	21224	21224	21224
5°	23793	21362	18930
10°	27265	21186	16382
15°	30163	20797	14474
20°	29703	20380	13194
25°	26783	19826	12383
30°	22134	18940	11792
35°	16131	18013	11371
40°	12884	16918	11137
45°	11257	15652	10819
50°	10582	14428	10608
55°	9754	13182	10325
60°	8938	11861	9884
65°	8145	10674	9456
70°	7393	9517	8823
75°	6556	8222	7817
80°	5635	6806	6295
85°	5057	5057	3742



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.2	4.3
10°-20°	364.4	12.6
20°-30°	528.9	18.2
30°-40°	557.5	19.2
40°-50°	493.3	17.0
50°-60°	393.8	13.6
60°-70°	267.5	9.2
70°-80°	136.9	4.7
80°-90°	32.3	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1018.5	35.1
0°-40°	1576.0	54.3
0°-60°	2463.0	84.9
0°-90°	2899.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2899.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1314	1314	1314	1314	1314	
5°	1468	1413	1318	1197	1168	146
15°	1804	1639	1244	946	866	500
25°	1503	1683	1113	740	695	682
35°	818	1318	914	594	577	530
45°	493	780	686	470	474	386
55°	346	449	468	353	367	311
65°	213	266	279	233	248	212
75°	105	129	132	118	125	112
85°	27	30	27	23	20	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5
2.5°	1390.2	1390.7	1391.7	1383.7	1382.7	1382.7	1375.6	1369.5	1362.4	1352.8	1353.9
5°	1468.0	1473.6	1475.6	1469.5	1460.4	1459.4	1450.8	1436.7	1423.6	1413.0	1405.4
7.5°	1557.9	1560.0	1555.9	1548.9	1542.8	1531.2	1517.0	1503.4	1483.2	1465.0	1451.9
10°	1663.0	1666.1	1657.5	1645.8	1636.2	1622.1	1598.9	1575.1	1546.3	1518.5	1496.3
12.5°	1742.8	1751.4	1739.8	1740.8	1722.6	1701.9	1673.1	1664.0	1620.6	1579.2	1554.9
15°	1804.5	1804.0	1805.0	1795.4	1783.3	1780.2	1750.9	1719.1	1662.0	1639.3	1599.9
17.5°	1795.4	1802.4	1806.5	1803.5	1801.4	1796.9	1784.3	1760.5	1729.2	1690.8	1643.8
20°	1728.7	1738.8	1740.3	1751.9	1758.5	1767.1	1770.6	1765.1	1747.4	1716.6	1677.2
22.5°	1625.6	1626.6	1632.2	1651.9	1668.1	1692.8	1706.0	1730.7	1726.7	1715.6	1684.2
25°	1503.4	1498.3	1516.0	1525.1	1557.9	1592.3	1617.1	1644.3	1668.6	1683.2	1673.6
27.5°	1368.0	1357.4	1384.2	1407.9	1431.1	1464.5	1501.9	1546.3	1580.2	1626.1	1637.3
30°	1187.2	1191.7	1217.0	1242.7	1283.1	1335.7	1379.1	1429.1	1483.2	1536.2	1573.1
32.5°	992.2	1012.9	1026.5	1069.4	1103.8	1163.9	1232.6	1298.3	1369.0	1431.1	1493.3
35°	818.4	838.6	860.8	889.6	939.6	997.7	1059.8	1144.2	1236.2	1318.5	1386.2
37.5°	708.2	704.7	718.4	739.6	782.5	832.5	906.3	992.2	1102.3	1193.7	1284.6
40°	611.3	609.2	618.3	637.5	668.3	702.7	765.3	838.6	939.1	1057.3	1171.0
42.5°	544.6	546.6	550.6	562.8	581.5	608.2	651.2	710.8	800.7	910.3	1034.6
45°	493.0	496.6	502.1	508.7	520.8	544.1	570.3	614.8	687.5	780.5	900.7
47.5°	452.6	453.6	459.7	465.8	472.8	487.0	510.2	538.5	594.1	673.4	781.0
50°	421.3	417.8	421.8	426.4	433.9	443.0	457.2	483.4	517.8	578.9	665.3
52.5°	382.9	383.9	387.5	388.5	395.0	404.1	416.8	432.9	463.2	507.7	574.9
55°	346.5	349.1	351.1	354.1	360.2	366.8	376.9	389.0	413.2	449.1	501.6
57.5°	312.2	313.2	314.7	321.3	324.8	330.9	341.0	352.1	368.3	396.1	437.5
60°	276.8	276.8	280.9	283.4	288.5	294.5	302.1	312.7	326.8	348.6	380.4
62.5°	244.5	244.0	245.0	249.6	253.1	258.6	266.2	274.8	287.9	306.6	331.4
65°	213.2	212.2	215.2	216.2	220.3	225.8	231.9	241.5	252.1	266.2	289.5
67.5°	181.9	183.4	185.4	187.4	189.4	196.0	200.0	207.1	216.2	228.3	244.5
70°	156.6	156.6	156.6	158.1	161.1	164.2	168.2	173.8	182.4	192.5	206.6
72.5°	128.3	130.3	132.4	130.8	134.9	136.4	141.4	144.0	152.1	157.6	169.7
75°	105.1	105.1	105.1	107.6	109.1	110.6	113.7	116.7	120.7	128.8	135.4
77.5°	82.8	82.3	82.8	83.4	85.4	87.4	88.4	90.9	95.0	99.0	105.1
80°	60.6	61.6	62.1	63.1	63.1	64.2	64.7	68.2	70.7	73.2	76.8
82.5°	43.4	43.4	43.4	43.4	43.9	44.5	46.0	46.5	47.0	49.0	51.5
85°	27.3	26.8	26.8	27.8	27.3	27.3	28.3	29.3	29.3	29.8	31.3
87.5°	13.1	13.1	13.6	13.1	13.1	13.6	13.6	13.1	13.6	14.1	14.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5
2.5°	1357.4	1353.4	1350.8	1341.7	1333.6	1325.6	1323.0	1324.1	1312.9	1302.3	1297.8
5°	1401.3	1391.2	1381.6	1368.0	1351.8	1334.2	1325.1	1318.0	1300.3	1281.1	1270.0
7.5°	1441.3	1428.1	1410.9	1386.7	1364.5	1338.2	1322.0	1308.4	1283.6	1257.9	1242.2
10°	1477.1	1457.4	1433.7	1402.4	1373.6	1339.7	1316.0	1292.2	1261.9	1229.6	1209.4
12.5°	1507.9	1479.6	1456.4	1414.0	1378.6	1334.2	1304.9	1269.0	1236.7	1196.7	1177.0
15°	1560.5	1511.5	1467.0	1421.5	1379.6	1320.5	1289.2	1244.2	1202.3	1154.8	1132.1
17.5°	1599.4	1546.3	1477.6	1422.6	1376.1	1312.9	1268.0	1214.4	1166.9	1114.4	1084.1
20°	1631.7	1568.6	1493.3	1424.6	1366.0	1291.2	1241.2	1186.1	1128.0	1066.9	1033.6
22.5°	1650.9	1583.7	1509.4	1417.0	1345.8	1273.5	1207.4	1145.7	1086.6	1019.4	984.1
25°	1651.9	1591.3	1512.5	1413.5	1329.6	1247.3	1171.5	1112.9	1041.7	980.0	929.0
27.5°	1635.2	1587.2	1511.0	1406.4	1310.9	1216.5	1134.1	1070.0	994.7	928.0	877.0
30°	1598.4	1573.1	1499.3	1394.3	1287.7	1184.1	1091.2	1015.9	941.1	873.4	820.9
32.5°	1541.3	1540.8	1478.1	1377.1	1262.9	1143.2	1046.2	969.9	885.1	818.9	769.4
35°	1463.0	1487.2	1446.3	1349.8	1230.6	1104.8	1000.7	913.9	828.0	764.3	717.3
37.5°	1363.5	1419.5	1403.4	1313.4	1189.2	1063.9	950.7	859.8	777.5	711.8	665.8
40°	1259.9	1336.7	1347.8	1270.5	1144.7	1014.9	893.1	802.7	722.9	664.3	617.8
42.5°	1148.8	1241.7	1277.1	1219.0	1096.2	963.4	841.6	747.1	668.3	611.8	571.9
45°	1022.0	1140.7	1195.7	1160.4	1041.2	905.8	780.5	685.5	613.8	560.2	528.4
47.5°	907.3	1036.1	1106.3	1089.7	982.1	847.7	723.9	631.5	560.2	516.8	487.0
50°	784.0	917.4	1006.8	1010.8	917.4	784.5	660.3	574.4	510.2	470.3	447.1
52.5°	676.9	802.7	902.2	928.0	845.2	718.9	603.2	517.8	463.2	427.4	407.2
55°	586.5	694.1	802.2	841.6	773.4	652.2	543.6	468.3	415.3	390.0	371.8
57.5°	500.6	595.1	697.6	739.1	695.6	589.0	484.0	417.8	372.8	350.1	335.9
60°	435.5	506.2	595.1	647.1	610.8	518.3	429.4	367.3	331.9	312.2	299.1
62.5°	374.8	435.5	507.2	553.7	538.0	452.1	374.8	321.8	292.5	274.3	265.7
65°	319.3	368.8	426.9	470.8	457.7	391.5	326.3	279.4	255.1	240.5	232.9
67.5°	271.8	309.7	351.1	391.5	380.4	331.4	276.3	238.4	219.7	206.6	202.1
70°	227.3	254.6	290.5	321.3	312.7	274.3	232.9	201.6	185.9	175.3	170.7
72.5°	184.9	206.1	231.4	255.1	250.1	219.7	186.9	165.2	154.1	144.5	140.9
75°	146.0	163.2	179.8	196.5	195.0	170.2	150.0	131.8	122.3	114.7	113.2
77.5°	114.2	124.8	136.9	147.5	145.0	128.8	112.1	101.0	93.5	88.4	87.9
80°	82.3	87.9	96.0	103.1	99.5	93.5	80.8	73.2	68.2	63.1	61.1
82.5°	54.1	59.6	63.7	66.7	64.2	58.6	52.0	47.5	45.0	41.9	41.4
85°	31.3	34.4	36.4	37.4	36.4	32.8	29.3	27.3	24.8	23.2	22.7
87.5°	15.2	15.2	15.2	16.2	14.6	14.6	12.6	11.1	10.6	10.1	9.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5	1314.5
2.5°	1292.7	1289.7	1279.1	1273.5	1264.4	1255.9	1250.3	1252.8	1254.8	1253.8	1252.3
5°	1259.9	1250.3	1235.6	1223.0	1213.9	1197.3	1190.2	1186.6	1183.6	1180.1	1176.5
7.5°	1223.5	1209.9	1189.2	1173.0	1156.8	1135.6	1125.0	1119.0	1112.4	1104.8	1097.7
10°	1184.1	1162.9	1140.7	1115.4	1095.2	1076.5	1059.8	1048.7	1038.6	1029.0	1022.0
12.5°	1142.7	1117.4	1088.6	1051.8	1029.0	1000.2	1001.2	979.5	962.3	957.3	948.7
15°	1098.2	1063.9	1029.0	988.1	970.4	946.2	931.0	915.9	902.2	892.6	890.1
17.5°	1049.7	1003.8	969.9	939.6	910.8	886.1	872.9	860.8	849.2	835.0	834.5
20°	992.7	954.3	916.4	890.6	860.8	835.6	818.4	806.3	796.7	789.1	782.5
22.5°	938.6	895.7	861.8	833.0	803.7	784.5	771.9	760.3	752.7	744.1	738.1
25°	880.0	847.2	809.3	777.5	753.2	740.1	729.0	718.9	713.8	708.2	701.2
27.5°	830.0	793.6	756.2	731.5	709.3	697.6	689.1	681.5	676.9	673.4	668.8
30°	776.4	739.6	711.8	687.5	669.9	658.2	653.2	649.1	643.6	641.6	639.5
32.5°	724.9	692.6	669.9	649.6	633.0	626.4	621.9	618.3	614.3	612.3	607.7
35°	676.9	649.1	625.9	614.3	600.6	594.1	590.5	585.5	581.5	579.4	578.9
37.5°	631.0	605.7	590.0	574.4	567.8	564.3	559.2	555.7	554.2	553.7	553.2
40°	586.5	566.8	553.2	541.0	538.5	532.4	528.4	525.4	525.4	525.9	525.4
42.5°	546.1	528.9	517.3	507.2	504.2	501.1	497.1	497.6	498.6	500.6	498.6
45°	505.2	492.5	484.0	478.9	473.3	469.8	469.3	470.8	471.3	471.8	473.3
47.5°	466.8	458.7	450.6	444.5	442.0	441.5	440.5	443.0	445.6	446.1	448.6
50°	433.4	423.8	417.3	413.7	411.7	410.7	411.7	414.7	416.8	419.3	420.8
52.5°	396.1	390.0	386.0	383.4	382.9	383.9	383.9	387.5	391.0	391.5	392.0
55°	362.2	357.2	356.1	351.6	353.6	353.1	355.6	357.7	360.7	363.7	364.2
57.5°	327.9	323.3	320.3	320.8	321.3	323.3	325.3	328.9	332.4	335.9	335.9
60°	293.5	291.5	290.0	290.0	291.0	294.0	296.5	300.1	302.1	304.1	305.6
62.5°	262.2	260.2	258.6	259.7	262.7	264.2	267.2	268.8	270.8	272.8	273.3
65°	228.8	227.8	229.3	230.4	230.9	233.4	236.9	238.4	240.5	241.5	245.0
67.5°	198.5	198.5	198.0	199.5	202.6	203.1	206.6	210.7	210.7	212.7	215.2
70°	167.7	168.7	169.7	170.7	173.3	174.3	176.8	178.3	180.3	181.9	183.4
72.5°	139.4	139.4	140.4	139.9	142.0	144.5	146.5	148.0	150.0	152.1	153.6
75°	111.6	111.6	112.7	113.2	115.7	118.2	117.7	118.7	120.7	122.8	123.8
77.5°	86.4	85.4	86.4	86.9	87.9	89.9	90.4	91.9	94.5	94.0	95.0
80°	62.1	60.6	62.1	62.6	62.6	65.2	65.2	66.2	67.7	66.2	67.7
82.5°	39.9	39.4	40.4	40.4	41.4	40.9	41.9	41.9	43.4	42.9	43.4
85°	22.2	21.7	22.2	21.7	22.2	22.7	22.7	22.2	22.2	23.2	21.7
87.5°	8.6	8.1	7.6	7.6	7.1	6.6	6.1	6.1	6.1	5.1	5.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P333758

CATALOG NUMBER: SA2XXDP-C865D927-4F0-1E-UDD-A

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	1314.5	1314.5	1314.5	1314.5
2.5°	1247.3	1246.3	1246.3	1241.7
5°	1169.5	1168.0	1165.4	1168.0
7.5°	1095.7	1089.1	1088.1	1083.1
10°	1013.4	1009.3	1008.8	999.2
12.5°	950.7	939.6	942.1	937.6
15°	876.5	876.5	874.5	865.9
17.5°	823.4	822.9	818.4	821.4
20°	777.0	773.9	767.9	767.9
22.5°	733.0	733.5	726.9	729.5
25°	700.7	696.6	693.6	695.1
27.5°	667.3	665.8	665.3	660.8
30°	639.0	634.0	635.0	632.5
32.5°	606.7	605.7	604.2	602.2
35°	577.9	578.4	575.9	576.9
37.5°	552.2	554.2	552.7	552.7
40°	526.9	526.9	526.9	528.4
42.5°	502.6	501.6	500.6	500.1
45°	474.4	475.9	476.4	473.8
47.5°	449.6	450.1	449.6	452.6
50°	423.3	422.3	423.3	422.3
52.5°	395.5	396.1	395.0	395.0
55°	366.2	367.3	366.8	366.8
57.5°	336.4	336.9	338.0	335.4
60°	305.1	307.6	307.1	306.1
62.5°	276.3	276.8	276.8	276.8
65°	246.5	247.5	246.0	247.5
67.5°	214.2	214.7	215.7	216.2
70°	184.4	183.9	185.4	186.9
72.5°	153.1	154.6	153.6	154.6
75°	122.8	124.3	123.8	125.3
77.5°	94.0	94.5	94.5	95.0
80°	67.7	66.7	65.7	67.7
82.5°	41.9	42.9	41.9	41.4
85°	21.7	21.2	20.2	20.2
87.5°	5.1	4.5	4.5	4.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)