

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: P333763

Luminaire Tested: **SA2XXDP-C865D930-4F0-1E-UDD-A**

Issue Date: 10/11/2019

Test Information

Test Method: LM-79-08
Report Number: P333763
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-C865D930-4F0-1E-UDD-A
Description: DEFINE 2 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 865 LUMENS PER FOOT
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

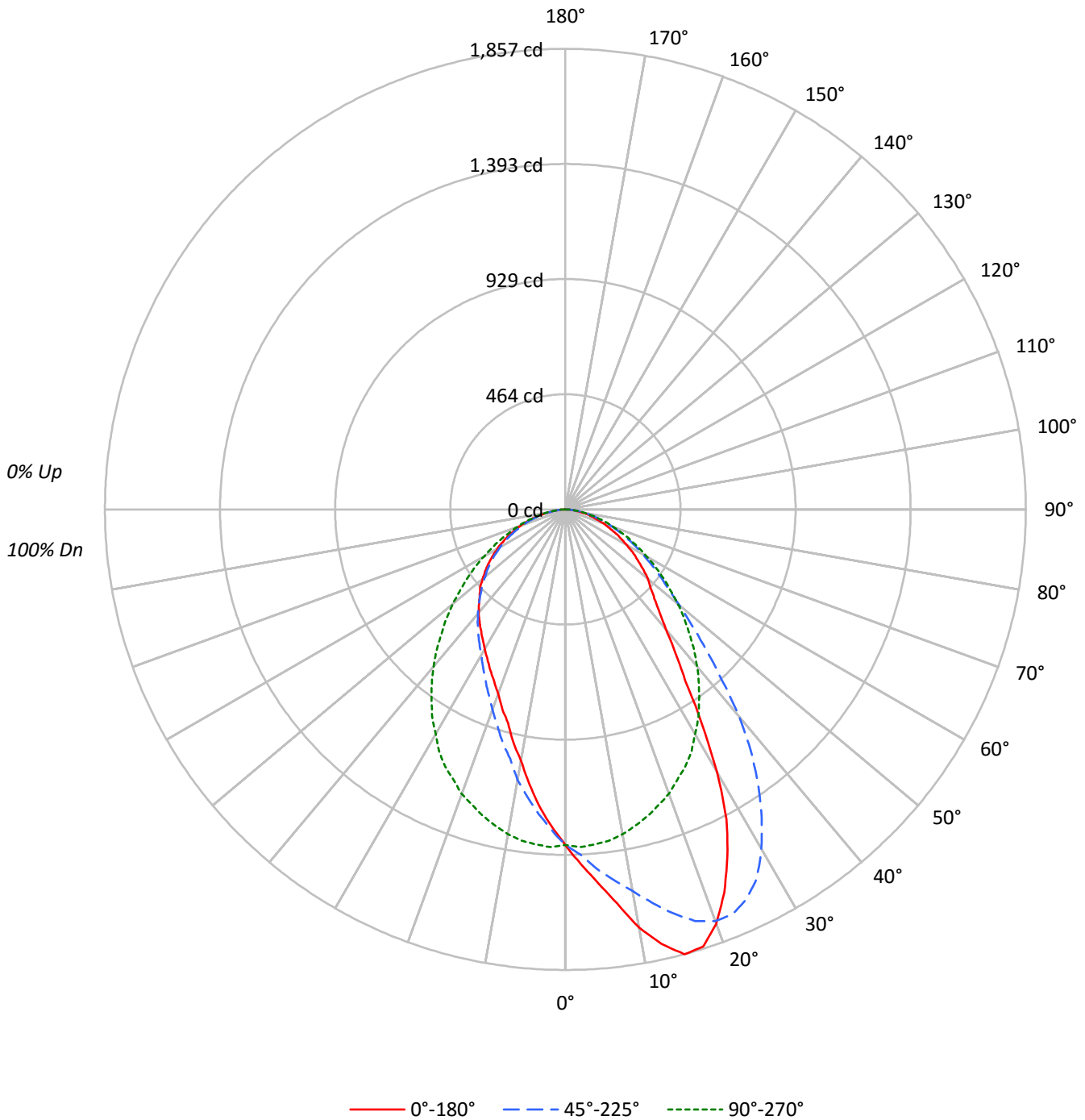
Lumens per Lamp: N/A
Luminaire Lumens: 2984.4 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

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°	21842	21842	21842
5°	24488	21985	19481
10°	28062	21804	16861
15°	31042	21404	14895
20°	30569	20976	13579
25°	27565	20405	12745
30°	22779	19492	12135
35°	16602	18538	11702
40°	13259	17412	11462
45°	11586	16109	11136
50°	10891	14848	10916
55°	10041	13568	10626
60°	9200	12206	10175
65°	8382	10984	9734
70°	7610	9791	9083
75°	6744	8465	8041
80°	5802	7011	6481
85°	5206	5206	3853



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	4.3
10°-20°	375.0	12.6
20°-30°	544.3	18.2
30°-40°	573.8	19.2
40°-50°	507.7	17.0
50°-60°	405.3	13.6
60°-70°	275.3	9.2
70°-80°	140.9	4.7
80°-90°	33.3	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°	1048.2	35.1
0°-40°	1622.0	54.3
0°-60°	2534.9	84.9
0°-90°	2984.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2984.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1353	1353	1353	1353	1353	
5°	1511	1454	1356	1232	1202	150
15°	1857	1687	1280	974	891	515
25°	1547	1732	1145	762	715	702
35°	842	1357	940	611	594	545
45°	507	803	706	484	488	398
55°	357	462	482	363	378	320
65°	219	274	288	240	255	218
75°	108	133	136	122	129	115
85°	28	31	28	23	21	32
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°	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8
2.5°	1430.8	1431.3	1432.4	1424.0	1423.0	1423.0	1415.7	1409.5	1402.2	1392.3	1393.4
5°	1510.9	1516.6	1518.7	1512.4	1503.1	1502.0	1493.2	1478.6	1465.1	1454.2	1446.4
7.5°	1603.4	1605.5	1601.3	1594.1	1587.8	1575.9	1561.3	1547.3	1526.5	1507.7	1494.2
10°	1711.6	1714.7	1705.8	1693.9	1684.0	1669.4	1645.5	1621.1	1591.5	1562.9	1540.0
12.5°	1793.7	1802.5	1790.6	1791.6	1772.9	1751.6	1721.9	1712.6	1667.9	1625.2	1600.3
15°	1857.1	1856.6	1857.6	1847.8	1835.3	1832.2	1802.0	1769.3	1710.5	1687.1	1646.6
17.5°	1847.8	1855.0	1859.2	1856.1	1854.0	1849.3	1836.3	1811.9	1779.7	1740.1	1691.8
20°	1779.1	1789.5	1791.1	1803.1	1809.8	1818.7	1822.3	1816.6	1798.4	1766.7	1726.1
22.5°	1673.1	1674.1	1679.8	1700.1	1716.7	1742.2	1755.7	1781.2	1777.1	1765.6	1733.4
25°	1547.3	1542.1	1560.3	1569.6	1603.4	1638.8	1664.2	1692.3	1717.3	1732.3	1722.5
27.5°	1407.9	1397.0	1424.6	1449.0	1472.9	1507.2	1545.7	1591.5	1626.3	1673.6	1685.0
30°	1221.8	1226.5	1252.5	1279.0	1320.6	1374.6	1419.4	1470.8	1526.5	1581.1	1619.0
32.5°	1021.1	1042.4	1056.5	1100.7	1136.0	1197.9	1268.6	1336.2	1409.0	1472.9	1536.9
35°	842.3	863.1	885.9	915.6	967.0	1026.8	1090.8	1177.6	1272.2	1357.0	1426.6
37.5°	728.9	725.3	739.3	761.2	805.3	856.8	932.7	1021.1	1134.4	1228.6	1322.1
40°	629.1	627.0	636.4	656.1	687.8	723.2	787.7	863.1	966.5	1088.2	1205.2
42.5°	560.5	562.5	566.7	579.2	598.4	626.0	670.2	731.5	824.1	936.9	1064.8
45°	507.4	511.1	516.8	523.6	536.0	559.9	587.0	632.7	707.6	803.3	927.0
47.5°	465.8	466.9	473.1	479.4	486.6	501.2	525.1	554.2	611.4	693.0	803.8
50°	433.6	430.0	434.1	438.8	446.6	456.0	470.5	497.6	532.9	595.8	684.7
52.5°	394.1	395.1	398.8	399.8	406.6	415.9	428.9	445.6	476.8	522.5	591.7
55°	356.7	359.3	361.3	364.5	370.7	377.5	387.9	400.3	425.3	462.2	516.3
57.5°	321.3	322.3	323.9	330.7	334.3	340.5	350.9	362.4	379.0	407.6	450.2
60°	284.9	284.9	289.1	291.7	296.9	303.1	310.9	321.8	336.4	358.7	391.5
62.5°	251.6	251.1	252.2	256.8	260.5	266.2	274.0	282.8	296.3	315.6	341.1
65°	219.4	218.4	221.5	222.5	226.7	232.4	238.6	248.5	259.4	274.0	297.9
67.5°	187.2	188.7	190.8	192.9	195.0	201.7	205.9	213.2	222.5	235.0	251.6
70°	161.2	161.2	161.2	162.7	165.9	169.0	173.1	178.8	187.7	198.1	212.6
72.5°	132.1	134.1	136.2	134.7	138.8	140.4	145.6	148.2	156.5	162.2	174.7
75°	108.1	108.1	108.1	110.7	112.3	113.9	117.0	120.1	124.3	132.6	139.3
77.5°	85.3	84.7	85.3	85.8	87.9	89.9	91.0	93.6	97.7	101.9	108.1
80°	62.4	63.4	63.9	65.0	65.0	66.0	66.5	70.2	72.8	75.4	79.0
82.5°	44.7	44.7	44.7	44.7	45.2	45.8	47.3	47.8	48.4	50.4	53.0
85°	28.1	27.6	27.6	28.6	28.1	28.1	29.1	30.2	30.2	30.7	32.2
87.5°	13.5	13.5	14.0	13.5	13.5	14.0	14.0	13.5	14.0	14.6	15.1
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8
2.5°	1397.0	1392.8	1390.2	1380.9	1372.6	1364.2	1361.6	1362.7	1351.3	1340.3	1335.7
5°	1442.2	1431.8	1422.0	1407.9	1391.3	1373.1	1363.7	1356.5	1338.3	1318.5	1307.1
7.5°	1483.3	1469.8	1452.1	1427.2	1404.3	1377.2	1360.6	1346.6	1321.1	1294.6	1278.5
10°	1520.2	1499.9	1475.5	1443.3	1413.6	1378.8	1354.4	1329.9	1298.7	1265.5	1244.7
12.5°	1551.9	1522.8	1498.9	1455.2	1418.8	1373.1	1342.9	1306.0	1272.7	1231.7	1211.4
15°	1606.0	1555.6	1509.8	1463.0	1419.9	1359.1	1326.8	1280.5	1237.4	1188.5	1165.1
17.5°	1646.0	1591.5	1520.7	1464.1	1416.2	1351.3	1305.0	1249.9	1201.0	1146.9	1115.7
20°	1679.3	1614.3	1536.9	1466.2	1405.8	1328.9	1277.4	1220.8	1161.0	1098.1	1063.7
22.5°	1699.1	1629.9	1553.5	1458.4	1385.0	1310.7	1242.6	1179.2	1118.3	1049.2	1012.8
25°	1700.1	1637.7	1556.6	1454.7	1368.4	1283.7	1205.7	1145.4	1072.1	1008.6	956.1
27.5°	1683.0	1633.6	1555.1	1447.4	1349.2	1251.9	1167.2	1101.2	1023.7	955.1	902.6
30°	1645.0	1619.0	1543.1	1435.0	1325.3	1218.7	1123.0	1045.5	968.6	898.9	844.9
32.5°	1586.3	1585.7	1521.3	1417.3	1299.8	1176.6	1076.7	998.2	910.9	842.8	791.8
35°	1505.7	1530.6	1488.5	1389.2	1266.5	1137.0	1029.9	940.5	852.1	786.6	738.3
37.5°	1403.2	1461.0	1444.3	1351.8	1223.9	1094.9	978.5	884.9	800.1	732.6	685.2
40°	1296.7	1375.7	1387.1	1307.6	1178.1	1044.5	919.2	826.1	744.0	683.7	635.9
42.5°	1182.3	1277.9	1314.3	1254.5	1128.2	991.5	866.2	768.9	687.8	629.6	588.5
45°	1051.8	1174.0	1230.6	1194.2	1071.5	932.2	803.3	705.5	631.7	576.6	543.8
47.5°	933.8	1066.3	1138.6	1121.5	1010.7	872.4	745.0	649.9	576.6	531.9	501.2
50°	806.9	944.2	1036.2	1040.3	944.2	807.4	679.5	591.1	525.1	484.0	460.1
52.5°	696.7	826.1	928.6	955.1	869.8	739.8	620.8	532.9	476.8	439.8	419.0
55°	603.6	714.4	825.6	866.2	796.0	671.2	559.4	482.0	427.4	401.4	382.7
57.5°	515.2	612.5	718.0	760.6	715.9	606.2	498.1	430.0	383.7	360.3	345.7
60°	448.2	521.0	612.5	666.0	628.6	533.4	441.9	378.0	341.6	321.3	307.8
62.5°	385.8	448.2	522.0	569.8	553.7	465.3	385.8	331.2	301.0	282.3	273.5
65°	328.6	379.5	439.3	484.6	471.0	402.9	335.9	287.5	262.6	247.5	239.7
67.5°	279.7	318.7	361.3	402.9	391.5	341.1	284.4	245.4	226.2	212.6	208.0
70°	234.0	262.0	298.9	330.7	321.8	282.3	239.7	207.4	191.3	180.4	175.7
72.5°	190.3	212.1	238.1	262.6	257.4	226.2	192.4	170.0	158.6	148.7	145.1
75°	150.3	167.9	185.1	202.2	200.7	175.2	154.4	135.7	125.8	118.0	116.5
77.5°	117.5	128.4	140.9	151.8	149.2	132.6	115.4	104.0	96.2	91.0	90.5
80°	84.7	90.5	98.8	106.1	102.4	96.2	83.2	75.4	70.2	65.0	62.9
82.5°	55.6	61.3	65.5	68.6	66.0	60.3	53.6	48.9	46.3	43.2	42.6
85°	32.2	35.4	37.4	38.5	37.4	33.8	30.2	28.1	25.5	23.9	23.4
87.5°	15.6	15.6	15.6	16.6	15.1	15.1	13.0	11.4	10.9	10.4	9.4
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°	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8	1352.8
2.5°	1330.5	1327.3	1316.4	1310.7	1301.3	1292.5	1286.8	1289.4	1291.5	1290.4	1288.9
5°	1296.7	1286.8	1271.7	1258.7	1249.3	1232.2	1224.9	1221.3	1218.2	1214.5	1210.9
7.5°	1259.2	1245.2	1223.9	1207.2	1190.6	1168.8	1157.8	1151.6	1144.8	1137.0	1129.8
10°	1218.7	1196.8	1174.0	1148.0	1127.2	1107.9	1090.8	1079.3	1068.9	1059.1	1051.8
12.5°	1176.0	1150.0	1120.4	1082.5	1059.1	1029.4	1030.5	1008.1	990.4	985.2	976.4
15°	1130.3	1094.9	1059.1	1016.9	998.8	973.8	958.2	942.6	928.6	918.7	916.1
17.5°	1080.4	1033.1	998.2	967.0	937.4	911.9	898.4	885.9	874.0	859.4	858.9
20°	1021.6	982.1	943.1	916.6	885.9	859.9	842.3	829.8	819.9	812.1	805.3
22.5°	966.0	921.8	887.0	857.3	827.2	807.4	794.4	782.5	774.7	765.8	759.6
25°	905.7	871.9	832.9	800.1	775.2	761.7	750.2	739.8	734.6	728.9	721.6
27.5°	854.2	816.8	778.3	752.8	730.0	718.0	709.2	701.4	696.7	693.0	688.4
30°	799.1	761.2	732.6	707.6	689.4	677.4	672.2	668.1	662.4	660.3	658.2
32.5°	746.1	712.8	689.4	668.6	651.4	644.7	640.0	636.4	632.2	630.1	625.5
35°	696.7	668.1	644.2	632.2	618.2	611.4	607.8	602.6	598.4	596.3	595.8
37.5°	649.4	623.4	607.3	591.1	584.4	580.7	575.5	571.9	570.3	569.8	569.3
40°	603.6	583.3	569.3	556.8	554.2	548.0	543.8	540.7	540.7	541.2	540.7
42.5°	562.0	544.3	532.4	522.0	518.9	515.8	511.6	512.1	513.2	515.2	513.2
45°	519.9	506.9	498.1	492.9	487.2	483.5	483.0	484.6	485.1	485.6	487.2
47.5°	480.4	472.1	463.8	457.5	454.9	454.4	453.4	456.0	458.6	459.1	461.7
50°	446.1	436.2	429.4	425.8	423.7	422.7	423.7	426.8	428.9	431.5	433.1
52.5°	407.6	401.4	397.2	394.6	394.1	395.1	395.1	398.8	402.4	402.9	403.5
55°	372.8	367.6	366.5	361.9	363.9	363.4	366.0	368.1	371.2	374.3	374.9
57.5°	337.4	332.7	329.6	330.1	330.7	332.7	334.8	338.5	342.1	345.7	345.7
60°	302.1	300.0	298.4	298.4	299.5	302.6	305.2	308.8	310.9	313.0	314.5
62.5°	269.8	267.8	266.2	267.2	270.4	271.9	275.0	276.6	278.7	280.8	281.3
65°	235.5	234.5	236.0	237.1	237.6	240.2	243.8	245.4	247.5	248.5	252.2
67.5°	204.3	204.3	203.8	205.4	208.5	209.0	212.6	216.8	216.8	218.9	221.5
70°	172.6	173.7	174.7	175.7	178.3	179.4	182.0	183.5	185.6	187.2	188.7
72.5°	143.5	143.5	144.5	144.0	146.1	148.7	150.8	152.3	154.4	156.5	158.1
75°	114.9	114.9	115.9	116.5	119.1	121.7	121.1	122.2	124.3	126.3	127.4
77.5°	88.9	87.9	88.9	89.4	90.5	92.5	93.1	94.6	97.2	96.7	97.7
80°	63.9	62.4	63.9	64.5	64.5	67.1	67.1	68.1	69.7	68.1	69.7
82.5°	41.1	40.6	41.6	41.6	42.6	42.1	43.2	43.2	44.7	44.2	44.7
85°	22.9	22.4	22.9	22.4	22.9	23.4	23.4	22.9	22.9	23.9	22.4
87.5°	8.8	8.3	7.8	7.8	7.3	6.8	6.2	6.2	6.2	5.2	5.2
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: P333763

CATALOG NUMBER: SA2XXDP-C865D930-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1352.8	1352.8	1352.8	1352.8
2.5°	1283.7	1282.6	1282.6	1277.9
5°	1203.6	1202.0	1199.4	1202.0
7.5°	1127.7	1120.9	1119.9	1114.7
10°	1042.9	1038.8	1038.3	1028.4
12.5°	978.5	967.0	969.6	965.0
15°	902.0	902.0	900.0	891.1
17.5°	847.5	846.9	842.3	845.4
20°	799.6	796.5	790.3	790.3
22.5°	754.4	754.9	748.2	750.8
25°	721.1	717.0	713.8	715.4
27.5°	686.8	685.2	684.7	680.0
30°	657.7	652.5	653.5	650.9
32.5°	624.4	623.4	621.8	619.7
35°	594.8	595.3	592.7	593.7
37.5°	568.3	570.3	568.8	568.8
40°	542.3	542.3	542.3	543.8
42.5°	517.3	516.3	515.2	514.7
45°	488.2	489.8	490.3	487.7
47.5°	462.7	463.2	462.7	465.8
50°	435.7	434.6	435.7	434.6
52.5°	407.1	407.6	406.6	406.6
55°	376.9	378.0	377.5	377.5
57.5°	346.3	346.8	347.8	345.2
60°	314.0	316.6	316.1	315.1
62.5°	284.4	284.9	284.9	284.9
65°	253.7	254.8	253.2	254.8
67.5°	220.4	221.0	222.0	222.5
70°	189.8	189.2	190.8	192.4
72.5°	157.5	159.1	158.1	159.1
75°	126.3	127.9	127.4	128.9
77.5°	96.7	97.2	97.2	97.7
80°	69.7	68.6	67.6	69.7
82.5°	43.2	44.2	43.2	42.6
85°	22.4	21.8	20.8	20.8
87.5°	5.2	4.7	4.7	4.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)