

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: P333742

Luminaire Tested: **SA2XXDP-C675D830-4F0-1E-UDD-A**

Issue Date: 10/11/2019

Test Information

Test Method: LM-79-08
Report Number: P333742
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-C675D830-4F0-1E-UDD-A
Description: DEFINE 2 DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 675 LUMENS PER FOOT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

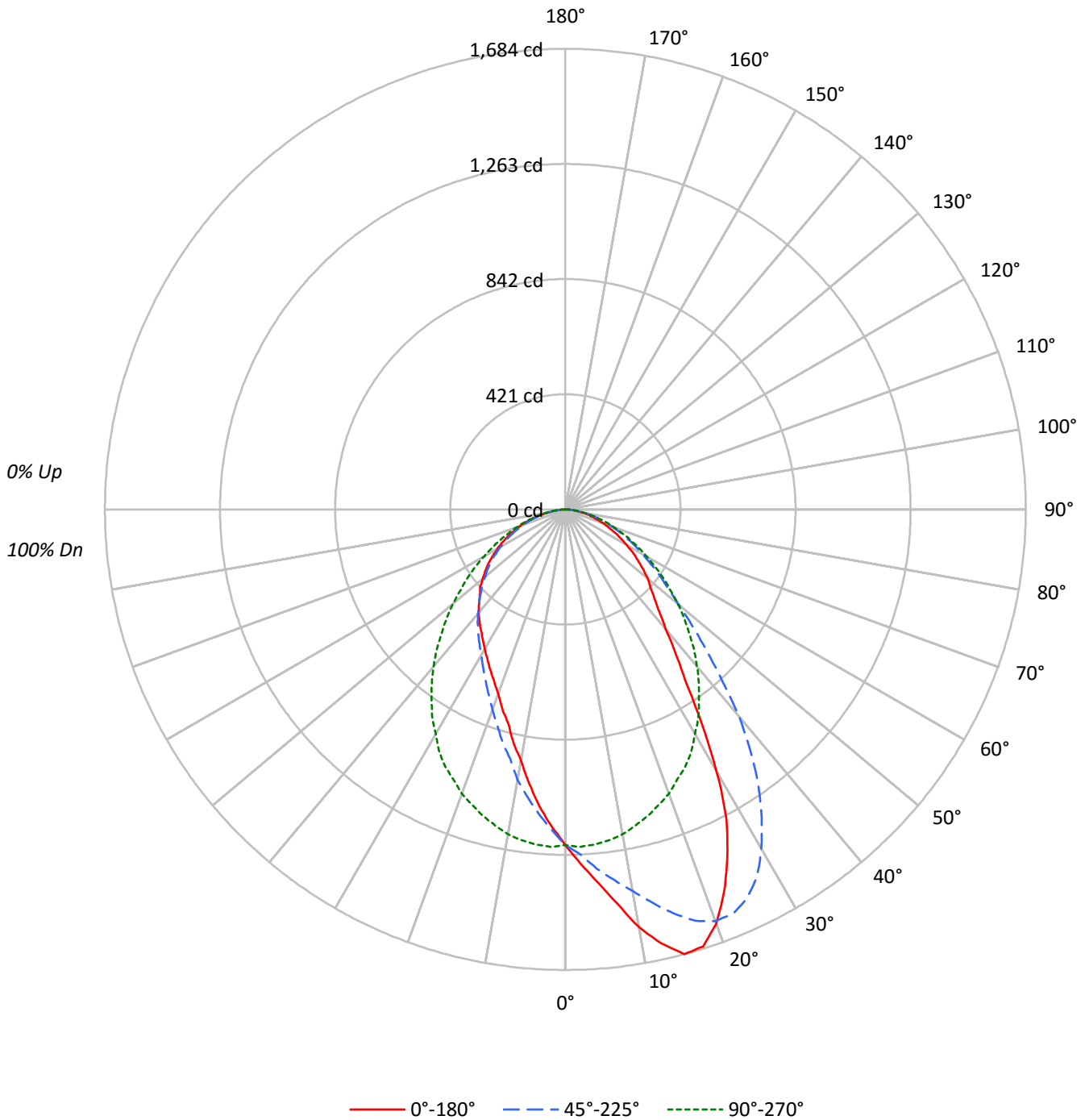
Lumens per Lamp: N/A
Luminaire Lumens: 2705.5 lumens
Efficiency: N/A
Efficacy: 102.9 lumens/watt
Spacing Criteria (0/90/45): 1.09 / 1.16 / 1.23
Luminous Opening: Rectangular (W 4' x L: 0.17' x H: 0')
CIE Type: Direct

Input Watts (W): 26.3
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°	19801	19801	19801
5°	22199	19930	17661
10°	25438	19766	15285
15°	28142	19405	13503
20°	27713	19015	12309
25°	24989	18497	11553
30°	20650	17670	11002
35°	15049	16805	10610
40°	12020	15784	10391
45°	10503	14604	10095
50°	9874	13461	9897
55°	9101	12298	9633
60°	8341	11066	9223
65°	7599	9956	8821
70°	6897	8880	8233
75°	6114	7673	7293
80°	5263	6351	5876
85°	4724	4724	3501



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.8	4.3
10°-20°	340.0	12.6
20°-30°	493.4	18.2
30°-40°	520.2	19.2
40°-50°	460.2	17.0
50°-60°	367.4	13.6
60°-70°	249.6	9.2
70°-80°	127.7	4.7
80°-90°	30.2	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°	950.2	35.1
0°-40°	1470.4	54.3
0°-60°	2298.0	84.9
0°-90°	2705.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2705.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1226	1226	1226	1226	1226	
5°	1370	1318	1230	1117	1090	136
15°	1684	1529	1161	883	808	466
25°	1403	1570	1038	690	648	636
35°	764	1230	853	554	538	494
45°	460	728	640	438	442	361
55°	323	419	437	330	342	290
65°	199	248	261	218	231	198
75°	98	120	123	110	117	104
85°	26	28	26	21	19	29
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°	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4
2.5°	1297.1	1297.6	1298.5	1291.0	1290.0	1290.0	1283.4	1277.8	1271.2	1262.2	1263.1
5°	1369.7	1374.9	1376.7	1371.1	1362.6	1361.7	1353.6	1340.4	1328.2	1318.3	1311.2
7.5°	1453.6	1455.4	1451.7	1445.1	1439.4	1428.6	1415.4	1402.7	1383.8	1366.8	1354.6
10°	1551.6	1554.4	1546.4	1535.6	1526.6	1513.4	1491.7	1469.6	1442.7	1416.8	1396.1
12.5°	1626.1	1634.1	1623.2	1624.2	1607.2	1587.9	1561.0	1552.5	1512.0	1473.4	1450.7
15°	1683.6	1683.1	1684.0	1675.1	1663.8	1660.9	1633.6	1603.9	1550.7	1529.4	1492.7
17.5°	1675.1	1681.7	1685.5	1682.6	1680.7	1676.5	1664.7	1642.6	1613.3	1577.5	1533.7
20°	1612.9	1622.3	1623.7	1634.6	1640.7	1648.7	1652.0	1646.8	1630.3	1601.6	1564.8
22.5°	1516.7	1517.7	1522.8	1541.2	1556.3	1579.4	1591.7	1614.8	1611.0	1600.6	1571.4
25°	1402.7	1397.9	1414.4	1422.9	1453.6	1485.6	1508.7	1534.2	1556.8	1570.5	1561.5
27.5°	1276.3	1266.4	1291.4	1313.6	1335.3	1366.4	1401.2	1442.7	1474.3	1517.2	1527.6
30°	1107.6	1111.9	1135.4	1159.5	1197.2	1246.2	1286.7	1333.4	1383.8	1433.3	1467.7
32.5°	925.7	945.0	957.7	997.8	1029.8	1085.9	1150.0	1211.3	1277.3	1335.3	1393.2
35°	763.5	782.4	803.1	830.0	876.7	930.9	988.8	1067.5	1153.3	1230.2	1293.3
37.5°	660.8	657.5	670.2	690.0	730.1	776.7	845.6	925.7	1028.4	1113.7	1198.6
40°	570.3	568.4	576.9	594.8	623.6	655.6	714.1	782.4	876.2	986.5	1092.5
42.5°	508.1	510.0	513.7	525.1	542.5	567.5	607.5	663.2	747.0	849.3	965.3
45°	460.0	463.3	468.5	474.6	485.9	507.6	532.1	573.6	641.5	728.2	840.4
47.5°	422.3	423.2	428.9	434.6	441.2	454.4	476.0	502.4	554.3	628.3	728.7
50°	393.1	389.8	393.6	397.8	404.9	413.4	426.5	451.1	483.1	540.1	620.7
52.5°	357.3	358.2	361.5	362.4	368.6	377.1	388.8	403.9	432.2	473.7	536.4
55°	323.3	325.7	327.6	330.4	336.1	342.2	351.6	362.9	385.5	419.0	468.0
57.5°	291.3	292.2	293.6	299.8	303.1	308.7	318.1	328.5	343.6	369.5	408.2
60°	258.3	258.3	262.1	264.4	269.1	274.8	281.9	291.7	304.9	325.2	354.9
62.5°	228.1	227.6	228.6	232.8	236.1	241.3	248.4	256.4	268.7	286.1	309.2
65°	198.9	198.0	200.8	201.7	205.5	210.7	216.3	225.3	235.2	248.4	270.1
67.5°	169.7	171.1	173.0	174.9	176.7	182.9	186.6	193.2	201.7	213.0	228.1
70°	146.1	146.1	146.1	147.5	150.4	153.2	157.0	162.1	170.1	179.6	192.8
72.5°	119.7	121.6	123.5	122.1	125.8	127.3	132.0	134.3	141.9	147.1	158.4
75°	98.0	98.0	98.0	100.4	101.8	103.2	106.0	108.9	112.6	120.2	126.3
77.5°	77.3	76.8	77.3	77.8	79.7	81.5	82.5	84.8	88.6	92.4	98.0
80°	56.6	57.5	58.0	58.9	58.9	59.9	60.3	63.6	66.0	68.3	71.6
82.5°	40.5	40.5	40.5	40.5	41.0	41.5	42.9	43.4	43.8	45.7	48.1
85°	25.5	25.0	25.0	25.9	25.5	25.5	26.4	27.3	27.3	27.8	29.2
87.5°	12.3	12.3	12.7	12.3	12.3	12.7	12.7	12.3	12.7	13.2	13.7
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°	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4
2.5°	1266.4	1262.7	1260.3	1251.8	1244.3	1236.8	1234.4	1235.3	1225.0	1215.1	1210.8
5°	1307.5	1298.0	1289.1	1276.3	1261.3	1244.8	1236.3	1229.7	1213.2	1195.3	1184.9
7.5°	1344.7	1332.4	1316.4	1293.8	1273.0	1248.5	1233.5	1220.7	1197.6	1173.6	1159.0
10°	1378.2	1359.8	1337.6	1308.4	1281.5	1250.0	1227.8	1205.6	1177.4	1147.2	1128.4
12.5°	1406.9	1380.5	1358.8	1319.2	1286.2	1244.8	1217.4	1184.0	1153.8	1116.6	1098.2
15°	1455.9	1410.2	1368.7	1326.3	1287.2	1232.0	1202.8	1160.9	1121.8	1077.4	1056.2
17.5°	1492.2	1442.7	1378.6	1327.2	1283.9	1225.0	1183.0	1133.1	1088.8	1039.7	1011.5
20°	1522.4	1463.5	1393.2	1329.1	1274.5	1204.7	1158.0	1106.7	1052.5	995.4	964.3
22.5°	1540.3	1477.6	1408.3	1322.1	1255.6	1188.2	1126.5	1069.0	1013.8	951.1	918.1
25°	1541.2	1484.7	1411.1	1318.8	1240.5	1163.7	1093.0	1038.3	971.9	914.4	866.8
27.5°	1525.7	1480.9	1409.7	1312.2	1223.1	1134.9	1058.1	998.3	928.0	865.8	818.2
30°	1491.3	1467.7	1398.9	1300.9	1201.4	1104.8	1018.1	947.8	878.1	814.9	765.9
32.5°	1438.0	1437.5	1379.1	1284.8	1178.3	1066.6	976.1	904.9	825.8	764.0	717.8
35°	1365.0	1387.6	1349.4	1259.4	1148.1	1030.8	933.7	852.6	772.5	713.1	669.3
37.5°	1272.1	1324.4	1309.3	1225.4	1109.5	992.6	887.0	802.2	725.4	664.1	621.2
40°	1175.5	1247.1	1257.5	1185.4	1068.0	946.9	833.3	748.9	674.5	619.8	576.4
42.5°	1071.8	1158.5	1191.5	1137.3	1022.8	898.8	785.2	697.1	623.6	570.8	533.5
45°	953.5	1064.2	1115.6	1082.6	971.4	845.1	728.2	639.6	572.7	522.7	493.0
47.5°	846.5	966.7	1032.2	1016.6	916.3	790.9	675.4	589.2	522.7	482.2	454.4
50°	731.5	855.9	939.3	943.1	855.9	732.0	616.0	535.9	476.0	438.8	417.1
52.5°	631.6	748.9	841.8	865.8	788.5	670.7	562.8	483.1	432.2	398.7	379.9
55°	547.2	647.6	748.5	785.2	721.6	608.5	507.1	436.9	387.4	363.9	346.9
57.5°	467.1	555.2	650.9	689.5	649.0	549.6	451.5	389.8	347.8	326.6	313.4
60°	406.3	472.3	555.2	603.8	569.8	483.6	400.6	342.7	309.7	291.3	279.0
62.5°	349.7	406.3	473.2	516.6	502.0	421.8	349.7	300.2	272.9	255.9	247.9
65°	297.9	344.1	398.3	439.3	427.0	365.3	304.5	260.6	238.0	224.4	217.3
67.5°	253.6	288.9	327.6	365.3	354.9	309.2	257.8	222.5	205.0	192.8	188.5
70°	212.1	237.5	271.0	299.8	291.7	255.9	217.3	188.1	173.4	163.5	159.3
72.5°	172.5	192.3	215.9	238.0	233.3	205.0	174.4	154.1	143.8	134.8	131.5
75°	136.2	152.2	167.8	183.3	181.9	158.8	140.0	123.0	114.1	107.0	105.6
77.5°	106.5	116.4	127.7	137.6	135.3	120.2	104.6	94.3	87.2	82.5	82.0
80°	76.8	82.0	89.6	96.2	92.9	87.2	75.4	68.3	63.6	58.9	57.0
82.5°	50.4	55.6	59.4	62.2	59.9	54.7	48.5	44.3	41.9	39.1	38.6
85°	29.2	32.1	33.9	34.9	33.9	30.6	27.3	25.5	23.1	21.7	21.2
87.5°	14.1	14.1	14.1	15.1	13.7	13.7	11.8	10.4	9.9	9.4	8.5
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°	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4	1226.4
2.5°	1206.1	1203.3	1193.4	1188.2	1179.7	1171.7	1166.5	1168.9	1170.8	1169.8	1168.4
5°	1175.5	1166.5	1152.9	1141.1	1132.6	1117.0	1110.4	1107.1	1104.3	1101.0	1097.7
7.5°	1141.5	1128.8	1109.5	1094.4	1079.3	1059.5	1049.6	1044.0	1037.9	1030.8	1024.2
10°	1104.8	1085.0	1064.2	1040.7	1021.8	1004.4	988.8	978.5	969.0	960.1	953.5
12.5°	1066.1	1042.6	1015.7	981.3	960.1	933.2	934.2	913.9	897.9	893.2	885.1
15°	1024.7	992.6	960.1	921.9	905.4	882.8	868.7	854.5	841.8	832.8	830.5
17.5°	979.4	936.5	904.9	876.7	849.8	826.7	814.4	803.1	792.3	779.1	778.6
20°	926.2	890.3	855.0	830.9	803.1	779.6	763.5	752.2	743.3	736.2	730.1
22.5°	875.7	835.7	804.1	777.2	749.9	732.0	720.2	709.3	702.3	694.3	688.6
25°	821.0	790.4	755.1	725.4	702.7	690.5	680.1	670.7	666.0	660.8	654.2
27.5°	774.4	740.5	705.6	682.5	661.7	650.9	642.9	635.8	631.6	628.3	624.0
30°	724.4	690.0	664.1	641.5	625.0	614.1	609.4	605.7	600.5	598.6	596.7
32.5°	676.4	646.2	625.0	606.1	590.6	584.4	580.2	576.9	573.1	571.2	567.0
35°	631.6	605.7	584.0	573.1	560.4	554.3	551.0	546.3	542.5	540.6	540.1
37.5°	588.7	565.1	550.5	535.9	529.8	526.5	521.8	518.5	517.0	516.6	516.1
40°	547.2	528.8	516.1	504.8	502.4	496.8	493.0	490.2	490.2	490.6	490.2
42.5°	509.5	493.5	482.6	473.2	470.4	467.6	463.8	464.3	465.2	467.1	465.2
45°	471.3	459.5	451.5	446.8	441.6	438.3	437.9	439.3	439.7	440.2	441.6
47.5°	435.5	428.0	420.4	414.8	412.4	411.9	411.0	413.4	415.7	416.2	418.5
50°	404.4	395.4	389.3	386.0	384.1	383.2	384.1	387.0	388.8	391.2	392.6
52.5°	369.5	363.9	360.1	357.7	357.3	358.2	358.2	361.5	364.8	365.3	365.7
55°	337.9	333.2	332.3	328.0	329.9	329.5	331.8	333.7	336.5	339.4	339.8
57.5°	305.9	301.6	298.8	299.3	299.8	301.6	303.5	306.8	310.1	313.4	313.4
60°	273.8	272.0	270.5	270.5	271.5	274.3	276.7	280.0	281.9	283.7	285.2
62.5°	244.6	242.7	241.3	242.3	245.1	246.5	249.3	250.7	252.6	254.5	255.0
65°	213.5	212.6	214.0	214.9	215.4	217.8	221.1	222.5	224.4	225.3	228.6
67.5°	185.2	185.2	184.8	186.2	189.0	189.5	192.8	196.5	196.5	198.4	200.8
70°	156.5	157.4	158.4	159.3	161.7	162.6	165.0	166.4	168.3	169.7	171.1
72.5°	130.1	130.1	131.0	130.6	132.4	134.8	136.7	138.1	140.0	141.9	143.3
75°	104.2	104.2	105.1	105.6	107.9	110.3	109.8	110.8	112.6	114.5	115.5
77.5°	80.6	79.7	80.6	81.1	82.0	83.9	84.4	85.8	88.1	87.7	88.6
80°	58.0	56.6	58.0	58.4	58.4	60.8	60.8	61.7	63.2	61.7	63.2
82.5°	37.2	36.8	37.7	37.7	38.6	38.2	39.1	39.1	40.5	40.1	40.5
85°	20.7	20.3	20.7	20.3	20.7	21.2	21.2	20.7	20.7	21.7	20.3
87.5°	8.0	7.5	7.1	7.1	6.6	6.1	5.7	5.7	5.7	4.7	4.7
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: P333742

CATALOG NUMBER: SA2XXDP-C675D830-4F0-1E-UDD-A

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1226.4	1226.4	1226.4	1226.4
2.5°	1163.7	1162.8	1162.8	1158.5
5°	1091.1	1089.7	1087.3	1089.7
7.5°	1022.3	1016.2	1015.2	1010.5
10°	945.5	941.7	941.2	932.3
12.5°	887.0	876.7	879.0	874.8
15°	817.7	817.7	815.9	807.8
17.5°	768.3	767.8	763.5	766.4
20°	724.9	722.1	716.4	716.4
22.5°	683.9	684.4	678.2	680.6
25°	653.7	650.0	647.1	648.5
27.5°	622.6	621.2	620.7	616.5
30°	596.2	591.5	592.5	590.1
32.5°	566.1	565.1	563.7	561.8
35°	539.2	539.7	537.3	538.3
37.5°	515.2	517.0	515.6	515.6
40°	491.6	491.6	491.6	493.0
42.5°	469.0	468.0	467.1	466.6
45°	442.6	444.0	444.5	442.1
47.5°	419.5	419.9	419.5	422.3
50°	395.0	394.0	395.0	394.0
52.5°	369.0	369.5	368.6	368.6
55°	341.7	342.7	342.2	342.2
57.5°	313.9	314.4	315.3	313.0
60°	284.7	287.0	286.6	285.6
62.5°	257.8	258.3	258.3	258.3
65°	230.0	230.9	229.5	230.9
67.5°	199.8	200.3	201.3	201.7
70°	172.0	171.6	173.0	174.4
72.5°	142.8	144.2	143.3	144.2
75°	114.5	115.9	115.5	116.9
77.5°	87.7	88.1	88.1	88.6
80°	63.2	62.2	61.3	63.2
82.5°	39.1	40.1	39.1	38.6
85°	20.3	19.8	18.9	18.9
87.5°	4.7	4.2	4.2	3.8
90°	0.0	0.0	0.0	0.0

(END OF REPORT)