

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: P331444-940

Luminaire Tested: **SA2XXDIP-C1005D725U940-4F0-1E-UDD-F**

Issue Date: 10/7/2019

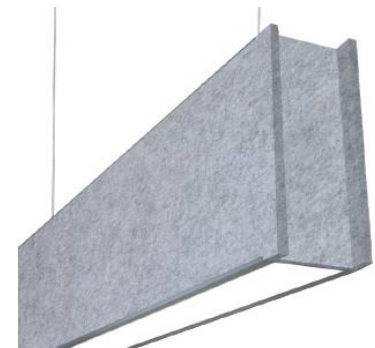
Test Information

Test Method: LM-79-08
Report Number: P331444-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6201.4 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

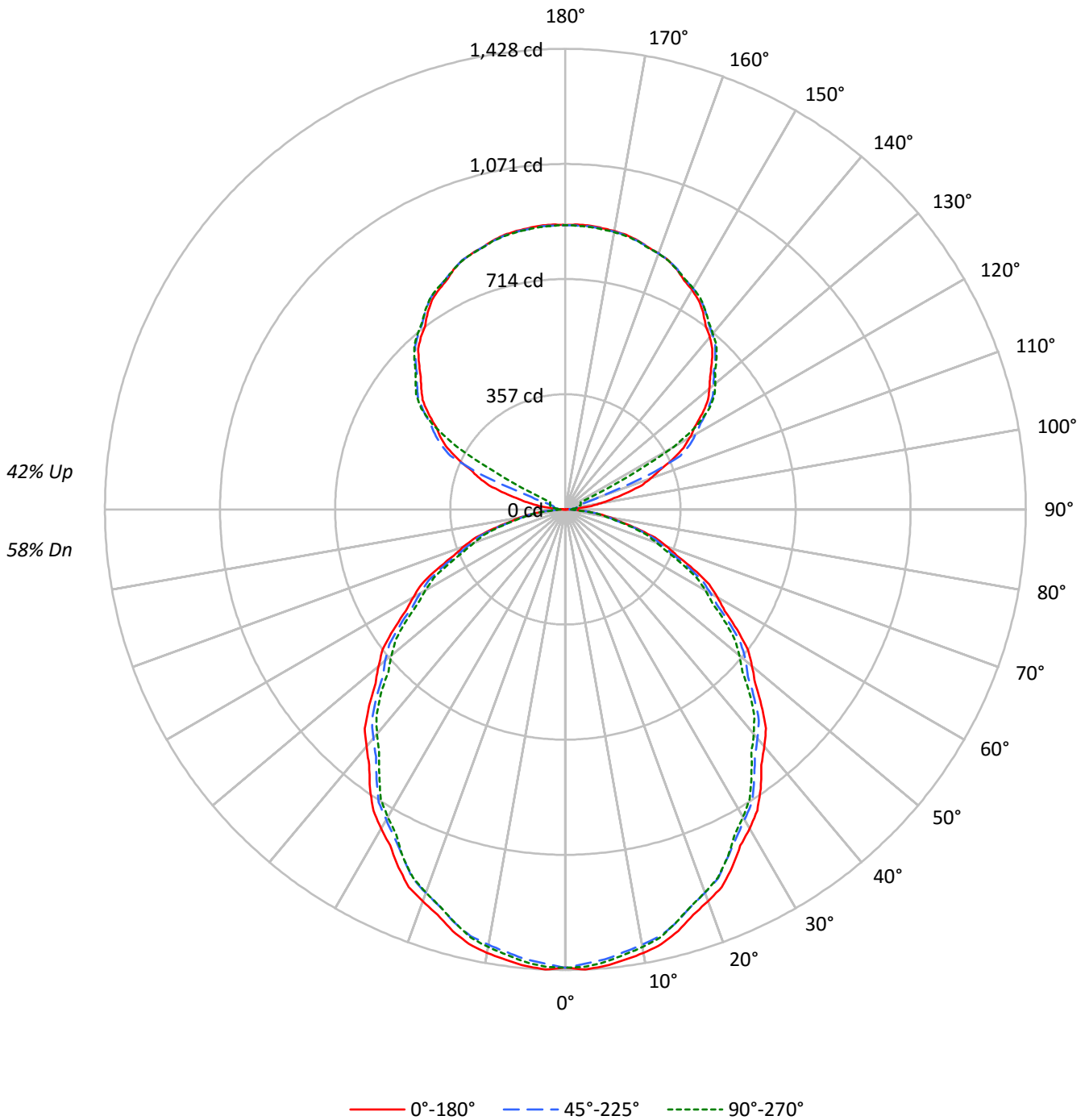
Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331444-940

CATALOG NUMBER: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F

Luminous Intensity Polar Plot





TEST NUMBER: P331444-940

CATALOG NUMBER: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F

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	50	30	10	50	30	10	50	30	10	0																			
RCR	0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58	58	58	49	49	49	41	41	41																			
	1	100	95	91	88	93	89	86	82	77	75	72	66	65	63	56	55	54	49	49	49	41	41	41	35	35	35																			
	2	91	83	77	72	84	78	72	68	68	63	60	58	55	52	50	47	45	41	41	41	35	35	35	30	30	30																			
	3	83	73	66	60	77	68	62	57	60	55	50	52	48	44	44	41	39	35	35	35	30	30	30	26	26	26																			
	4	76	65	57	51	70	61	54	48	53	47	43	46	42	38	39	36	33	30	30	30	26	26	26	23	23	23																			
	5	70	58	50	43	65	54	47	41	48	42	37	41	37	33	35	32	29	26	26	26	23	23	23	20	20	20																			
	6	64	52	44	38	60	49	41	36	43	37	32	37	33	29	32	28	26	23	23	23	20	20	20	18	18	18																			
	7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	29	26	23	20	20	20	18	18	18	16	16	16																			
	8	55	43	35	29	51	40	33	28	36	30	25	31	26	23	27	23	20	18	18	18	16	16	16	15	15	15																			
	9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	18	16	16	16	15	15	15	14	14	14																			
	10	48	36	28	24	45	34	27	23	30	25	21	27	22	19	23	19	17	15	15	15	14	14	14	13	13	13																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22946	22946	22946
5°	23034	22702	22835
10°	22897	22471	22584
15°	22614	22181	22158
20°	22213	21742	21720
25°	21814	21205	21205
30°	21300	20713	20534
35°	20820	20120	19825
40°	20219	19530	19153
45°	19628	18941	18472
50°	18982	18331	17678
55°	18311	17619	16963
60°	17563	16769	16152
65°	16756	15924	15194
70°	15739	14903	14195
75°	14323	13724	13381
80°	12710	12329	11688
85°	10374	9874	8855



TEST NUMBER: P331444-940

CATALOG NUMBER: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	2.2
10°-20°	376.0	6.1
20°-30°	552.7	8.9
30°-40°	642.0	10.4
40°-50°	641.3	10.3
50°-60°	559.3	9.0
60°-70°	413.6	6.7
70°-80°	234.2	3.8
80°-90°	65.2	1.1
90°-100°	29.4	0.5
100°-110°	107.8	1.7
110°-120°	288.3	4.6
120°-130°	475.8	7.7
130°-140°	506.0	8.2
140°-150°	470.3	7.6
150°-160°	378.1	6.1
160°-170°	243.7	3.9
170°-180°	83.9	1.4
0°-30°	1062.4	17.1
0°-40°	1704.4	27.5
0°-60°	2905.1	46.8
0°-90°	3618.0	58.3
90°-120°	425.5	6.9
90°-150°	1877.7	30.3
90°-180°	2583.0	41.7
0°-180°	6201.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1421	1415	1401	1411	1409	135
15°	1353	1344	1327	1332	1326	381
25°	1224	1213	1190	1193	1190	563
35°	1056	1042	1021	1013	1006	659
45°	860	849	830	815	809	663
55°	650	642	626	610	603	581
65°	439	430	417	405	398	434
75°	230	227	220	212	214	245
85°	56	55	53	49	48	64
90°	1	8	13	16	17	5
95°	42	22	25	28	28	51
105°	194	202	39	46	48	207
115°	367	378	394	112	52	361
125°	519	527	539	543	545	462
135°	642	652	658	664	663	495
145°	744	744	755	759	756	465
155°	820	815	822	825	820	378
165°	864	860	862	866	862	244
175°	883	879	880	884	878	84
180°	882	882	882	882	882	



TEST NUMBER: P331444-940

CATALOG NUMBER: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1427.8	1426.6	1425.4	1424.2	1422.9	1421.0	1418.4	1415.7	1413.0	1410.3	1412.7
5°	1421.2	1420.0	1418.8	1417.6	1416.4	1414.1	1410.8	1407.4	1404.1	1400.7	1403.2
7.5°	1408.6	1406.8	1404.9	1403.0	1401.1	1398.5	1395.1	1391.7	1388.3	1384.9	1387.3
10°	1396.6	1394.5	1392.4	1390.3	1388.1	1385.3	1381.6	1378.0	1374.3	1370.6	1373.1
12.5°	1380.3	1378.3	1376.4	1374.6	1372.7	1369.9	1366.3	1362.6	1359.1	1355.4	1357.1
15°	1352.9	1351.1	1349.2	1347.5	1345.6	1342.7	1338.8	1334.8	1330.9	1327.0	1328.2
17.5°	1317.9	1316.1	1314.3	1312.4	1310.6	1307.7	1303.7	1299.7	1295.7	1291.7	1293.1
20°	1292.8	1290.9	1289.1	1287.3	1285.5	1282.5	1278.2	1274.0	1269.7	1265.4	1266.3
22.5°	1267.7	1265.1	1262.6	1260.0	1257.4	1254.2	1250.2	1246.2	1242.2	1238.1	1238.3
25°	1224.5	1222.0	1219.6	1217.2	1214.8	1210.9	1205.8	1200.6	1195.4	1190.3	1190.9
27.5°	1175.3	1173.0	1170.9	1168.7	1166.5	1163.4	1159.3	1155.2	1151.2	1147.1	1146.2
30°	1142.5	1140.1	1137.6	1135.1	1132.7	1129.3	1124.7	1120.2	1115.6	1111.0	1110.1
32.5°	1107.5	1105.5	1103.6	1101.6	1099.7	1096.4	1091.5	1086.7	1081.9	1077.1	1075.5
35°	1056.3	1053.3	1050.3	1047.2	1044.2	1040.3	1035.4	1030.6	1025.7	1020.8	1019.0
37.5°	998.7	996.0	993.4	990.7	988.0	984.3	979.4	974.6	969.6	964.8	962.5
40°	959.3	956.9	954.5	952.1	949.6	946.0	941.1	936.3	931.4	926.6	923.8
42.5°	921.0	918.6	916.2	913.8	911.3	907.7	902.9	898.0	893.1	888.2	885.3
45°	859.6	857.5	855.3	853.2	851.0	847.7	843.2	838.7	834.1	829.5	826.2
47.5°	798.3	796.4	794.3	792.4	790.3	786.9	782.2	777.5	772.8	768.0	764.5
50°	755.7	754.2	752.7	751.2	749.7	746.7	742.5	738.2	734.0	729.8	725.5
52.5°	714.2	712.2	710.2	708.2	706.1	703.1	699.1	695.1	691.2	687.2	683.6
55°	650.5	648.6	646.8	645.1	643.2	640.4	636.9	633.2	629.5	625.9	622.2
57.5°	586.6	585.1	583.6	582.2	580.7	578.0	574.0	570.0	566.0	562.0	558.4
60°	543.9	542.7	541.4	540.3	539.0	536.3	532.1	527.8	523.5	519.3	515.9
62.5°	502.4	500.4	498.5	496.5	494.5	492.0	488.7	485.4	482.1	478.8	475.7
65°	438.6	436.8	435.1	433.2	431.4	428.9	425.9	422.8	419.8	416.8	414.1
67.5°	373.9	372.5	371.0	369.5	368.1	366.0	363.2	360.5	357.8	355.1	352.9
70°	333.4	332.3	331.0	329.8	328.6	326.6	323.9	321.1	318.4	315.7	313.5
72.5°	291.9	290.7	289.4	288.3	287.0	285.5	283.8	282.0	280.3	278.5	276.3
75°	229.6	229.0	228.4	227.7	227.1	226.0	224.5	223.0	221.5	220.0	218.2
77.5°	173.8	172.8	171.7	170.8	169.7	168.9	168.3	167.6	167.0	166.5	165.5
80°	136.7	136.3	136.1	135.7	135.5	135.0	134.4	133.8	133.1	132.6	131.6
82.5°	101.7	101.7	101.6	101.5	101.4	101.2	100.9	100.5	100.1	99.8	98.6
85°	56.0	55.7	55.5	55.1	54.8	54.5	54.2	53.9	53.6	53.3	52.3
87.5°	19.8	19.6	19.4	19.3	19.1	18.9	18.6	18.4	18.1	17.8	17.3
90°	0.6	2.2	3.7	5.4	6.9	8.2	9.4	10.5	11.6	12.8	13.5
92.5°	12.8	12.8	12.6	12.5	12.3	12.6	13.1	13.6	14.3	14.8	15.2
95°	41.5	36.8	32.1	27.5	22.7	20.9	21.9	22.9	23.9	24.9	25.6
97.5°	82.3	69.1	55.9	42.7	29.5	24.1	26.4	28.7	31.0	33.3	33.9
100°	112.9	93.5	74.1	54.7	35.2	26.8	29.2	31.6	34.0	36.4	37.5
102.5°	146.6	142.5	138.4	134.3	130.1	118.0	97.8	77.7	57.5	37.4	38.9
105°	193.9	198.1	202.4	206.7	210.9	193.7	155.0	116.3	77.6	38.9	40.5
107.5°	247.9	251.3	254.8	258.2	261.6	240.1	193.7	147.3	100.9	54.5	52.9
110°	282.6	285.5	288.6	291.5	294.4	275.4	234.5	193.6	152.6	111.6	97.5



TEST NUMBER: P331444-940

CATALOG NUMBER: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	315.2	317.9	320.5	323.2	325.7	322.0	311.9	301.8	291.7	281.5	229.9
115°	366.8	369.2	371.6	374.0	376.4	379.4	382.9	386.5	390.0	393.6	328.0
117.5°	412.9	415.5	418.2	420.9	423.6	426.1	428.6	431.1	433.5	436.0	420.1
120°	446.5	448.6	450.8	452.9	455.0	457.4	459.9	462.4	465.0	467.5	469.2
122.5°	475.1	477.3	479.6	481.8	484.0	486.5	489.4	492.1	494.9	497.7	498.6
125°	518.6	520.4	522.3	524.1	525.9	528.2	530.9	533.6	536.3	539.0	540.0
127.5°	558.0	560.1	562.1	564.1	566.1	568.2	570.2	572.2	574.3	576.2	577.7
130°	583.0	585.3	587.5	589.8	592.1	594.0	595.6	597.1	598.7	600.2	601.8
132.5°	608.5	610.5	612.4	614.3	616.3	618.0	619.6	621.1	622.7	624.2	625.5
135°	641.7	644.0	646.2	648.5	650.8	652.6	653.8	655.1	656.4	657.6	659.1
137.5°	675.3	676.8	678.4	680.0	681.6	683.1	684.6	686.0	687.4	688.9	690.3
140°	697.2	698.3	699.5	700.6	701.7	703.1	704.6	706.2	707.8	709.4	710.6
142.5°	715.6	716.6	717.6	718.6	719.6	721.0	722.8	724.6	726.4	728.2	729.3
145°	744.4	744.2	744.1	744.0	743.9	744.9	747.3	749.8	752.2	754.6	755.6
147.5°	769.5	769.0	768.5	767.9	767.4	768.3	770.7	773.0	775.4	777.8	778.6
150°	785.9	784.9	783.9	782.9	781.9	782.6	784.8	787.0	789.3	791.6	792.5
152.5°	799.6	798.5	797.5	796.3	795.2	795.8	797.9	800.0	802.2	804.3	805.2
155°	819.7	818.4	817.1	815.8	814.6	814.8	816.5	818.1	819.8	821.5	822.4
157.5°	835.4	834.3	833.2	832.1	831.1	831.1	832.3	833.5	834.6	835.9	836.9
160°	844.5	843.6	842.8	842.0	841.2	841.2	842.0	842.8	843.6	844.5	845.4
162.5°	852.7	851.9	851.0	850.2	849.3	849.3	850.0	850.7	851.5	852.2	853.2
165°	863.7	862.8	862.0	861.1	860.2	860.1	860.5	860.9	861.3	861.7	862.7
167.5°	871.8	871.0	870.1	869.3	868.4	868.2	868.6	869.0	869.4	869.8	870.8
170°	876.5	875.6	874.8	873.9	873.1	872.7	873.1	873.3	873.6	873.9	874.9
172.5°	879.5	878.6	877.8	876.9	876.1	875.8	876.1	876.4	876.6	876.9	878.0
175°	883.4	882.4	881.5	880.5	879.5	879.1	879.4	879.7	879.9	880.3	881.3
177.5°	884.1	883.3	882.5	881.7	880.9	880.6	880.7	880.8	880.9	881.0	881.8
180°	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5



TEST NUMBER: P331444-940

CATALOG NUMBER: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1415.1	1417.6	1420.0	1421.0	1420.5	1420.0	1419.5	1419.1
5°	1405.6	1408.0	1410.4	1411.4	1410.8	1410.2	1409.5	1408.9
7.5°	1389.7	1392.1	1394.6	1395.5	1394.8	1394.2	1393.5	1392.9
10°	1375.6	1378.0	1380.4	1381.2	1380.3	1379.3	1378.4	1377.5
12.5°	1358.8	1360.5	1362.2	1362.7	1362.0	1361.4	1360.7	1360.0
15°	1329.4	1330.6	1331.8	1331.7	1330.2	1328.6	1327.1	1325.6
17.5°	1294.5	1295.9	1297.3	1297.3	1295.7	1294.3	1292.9	1291.4
20°	1267.3	1268.2	1269.1	1268.9	1267.7	1266.5	1265.3	1264.1
22.5°	1238.5	1238.7	1238.9	1238.6	1237.9	1237.2	1236.4	1235.6
25°	1191.5	1192.1	1192.8	1192.8	1192.1	1191.5	1190.9	1190.3
27.5°	1145.3	1144.3	1143.4	1142.3	1140.9	1139.3	1137.9	1136.5
30°	1109.2	1108.3	1107.4	1106.3	1105.1	1103.8	1102.7	1101.4
32.5°	1073.9	1072.2	1070.6	1069.2	1067.9	1066.8	1065.5	1064.3
35°	1017.2	1015.4	1013.5	1011.9	1010.4	1008.9	1007.3	1005.8
37.5°	960.3	958.1	955.8	954.0	952.5	951.0	949.6	948.2
40°	921.0	918.4	915.6	913.6	912.4	911.2	910.0	908.7
42.5°	882.3	879.3	876.4	874.1	872.4	870.7	869.0	867.2
45°	822.9	819.5	816.2	813.9	812.6	811.5	810.2	809.0
47.5°	761.0	757.4	753.9	751.3	749.5	747.8	746.0	744.2
50°	721.2	717.0	712.7	709.9	708.4	706.9	705.3	703.8
52.5°	680.1	676.5	673.1	670.3	668.2	666.3	664.2	662.3
55°	618.6	614.9	611.4	608.8	607.3	605.7	604.2	602.6
57.5°	554.7	551.2	547.6	545.2	544.1	543.0	541.8	540.6
60°	512.6	509.3	506.0	503.8	502.9	502.0	501.1	500.2
62.5°	472.7	469.6	466.5	464.3	463.2	462.0	460.8	459.7
65°	411.3	408.6	405.9	403.8	402.3	400.7	399.2	397.7
67.5°	350.8	348.7	346.5	344.8	343.7	342.4	341.3	340.0
70°	311.4	309.3	307.2	305.5	304.3	303.1	301.8	300.7
72.5°	274.3	272.2	270.0	268.5	267.5	266.5	265.6	264.6
75°	216.4	214.5	212.8	212.1	212.8	213.3	213.9	214.5
77.5°	164.6	163.7	162.8	161.9	161.0	160.2	159.3	158.5
80°	130.7	129.8	128.9	128.1	127.5	127.0	126.4	125.7
82.5°	97.5	96.3	95.1	94.5	94.3	94.3	94.2	94.0
85°	51.5	50.6	49.7	49.0	48.8	48.4	48.2	47.8
87.5°	16.7	16.1	15.5	15.2	14.9	14.7	14.5	14.4
90°	14.2	14.9	15.6	16.1	16.4	16.7	16.9	17.2
92.5°	15.5	15.9	16.2	16.6	16.7	16.9	17.0	17.2
95°	26.3	27.0	27.7	28.0	27.8	27.7	27.6	27.5
97.5°	34.4	35.0	35.6	35.9	36.1	36.3	36.5	36.6
100°	38.6	39.8	40.9	41.6	41.9	42.2	42.4	42.7
102.5°	40.3	41.8	43.2	44.2	44.6	45.0	45.4	45.8
105°	42.0	43.6	45.1	46.2	46.8	47.3	47.9	48.5
107.5°	51.3	49.7	48.2	47.6	48.2	48.8	49.3	49.8
110°	83.3	69.1	54.9	48.2	48.7	49.2	49.8	50.4



TEST NUMBER: P331444-940

CATALOG NUMBER: SA2XXDIP-C1005D725U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	178.2	126.4	74.7	49.0	49.6	50.0	50.5	50.9
115°	262.3	196.7	131.1	93.1	82.9	72.7	62.5	52.3
117.5°	404.2	388.3	372.4	347.7	314.1	280.6	247.1	213.6
120°	471.0	472.7	474.4	465.7	446.5	427.4	408.2	389.1
122.5°	499.7	500.7	501.8	500.4	496.7	492.9	489.3	485.5
125°	541.0	542.0	543.0	543.7	544.1	544.6	544.9	545.4
127.5°	579.2	580.6	582.0	582.8	582.9	583.0	583.1	583.2
130°	603.3	604.9	606.5	607.2	607.1	606.9	606.7	606.6
132.5°	626.9	628.2	629.5	630.2	630.0	629.9	629.7	629.5
135°	660.5	661.9	663.3	663.9	663.6	663.3	663.0	662.7
137.5°	691.7	693.0	694.5	694.9	694.5	693.9	693.5	692.9
140°	711.9	713.1	714.4	714.7	714.0	713.3	712.6	711.9
142.5°	730.5	731.6	732.8	733.1	732.4	731.6	730.9	730.2
145°	756.6	757.6	758.6	758.7	758.0	757.3	756.6	755.9
147.5°	779.3	780.1	780.8	780.9	780.2	779.6	779.1	778.5
150°	793.3	794.2	795.0	795.0	794.3	793.6	792.9	792.2
152.5°	806.0	806.9	807.8	807.7	806.8	805.8	804.9	804.0
155°	823.3	824.1	825.0	824.8	823.7	822.6	821.4	820.3
157.5°	837.8	838.7	839.7	839.6	838.6	837.4	836.3	835.3
160°	846.2	847.1	847.9	847.8	846.9	845.9	844.9	843.9
162.5°	854.1	855.1	856.0	856.0	854.7	853.5	852.3	851.0
165°	863.7	864.8	865.8	865.8	864.8	863.7	862.7	861.7
167.5°	871.8	872.8	873.8	873.6	872.4	871.1	869.8	868.5
170°	875.8	876.8	877.9	877.7	876.5	875.1	873.9	872.6
172.5°	879.0	879.9	880.9	880.7	879.5	878.2	876.9	875.7
175°	882.3	883.2	884.2	884.0	882.6	881.2	879.8	878.3
177.5°	882.6	883.4	884.2	884.1	883.1	882.1	881.0	880.0
180°	881.5	881.5	881.5	881.5	881.5	881.5	881.5	881.5

(END OF REPORT)