

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: P331426-935

Luminaire Tested: **SA2XXDIP-C1005D330U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331426-935  
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-C1005D330U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4619.7 lumens  
Efficiency: N/A  
Efficacy: 92.8 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: Semi-Direct

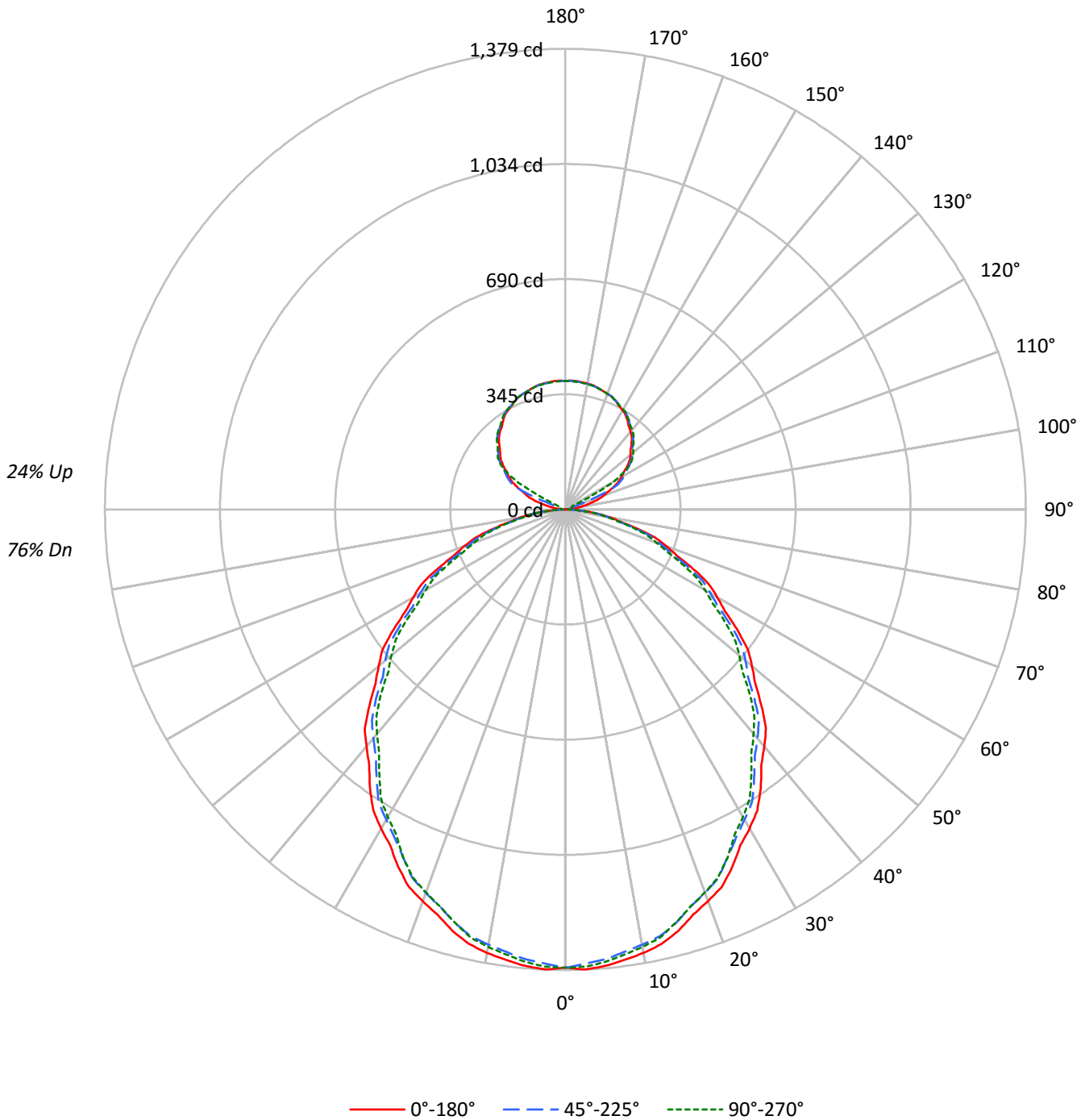
Input Watts (W): 49.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	113	113	113	113	108	108	108	108	98	98	98	88	88	88	80	80	80	76
1	104	99	95	91	98	94	91	88	86	83	80	78	76	74	70	69	67	64
2	94	87	80	75	89	83	77	72	75	71	67	68	65	62	62	59	57	53
3	86	76	68	62	82	73	66	60	66	61	56	60	56	52	55	51	48	45
4	79	68	59	53	75	65	57	51	59	53	48	54	49	45	49	45	42	39
5	73	60	52	46	69	58	50	44	53	47	42	49	43	39	44	40	36	34
6	67	54	46	40	64	52	44	39	48	41	36	44	38	34	40	36	32	30
7	62	49	41	35	59	47	40	34	44	37	32	40	35	30	37	32	29	26
8	58	45	37	31	55	43	36	30	40	33	29	37	31	27	34	29	26	24
9	54	41	33	28	51	40	32	27	37	30	26	34	28	25	31	27	23	21
10	50	38	30	25	48	36	29	25	34	28	23	31	26	22	29	24	21	19

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

	0°	45°	90°
0°	22157	22157	22157
5°	22242	21921	22049
10°	22109	21697	21807
15°	21835	21417	21396
20°	21448	20993	20972
25°	21063	20475	20475
30°	20566	19999	19827
35°	20103	19429	19141
40°	19524	18858	18493
45°	18952	18287	17838
50°	18329	17698	17071
55°	17681	17011	16380
60°	16956	16191	15594
65°	16180	15373	14670
70°	15196	14389	13704
75°	13830	13250	12926
80°	12273	11901	11288
85°	10022	9541	8540



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.0	2.8
10°-20°	363.1	7.9
20°-30°	533.7	11.6
30°-40°	619.9	13.4
40°-50°	619.3	13.4
50°-60°	540.0	11.7
60°-70°	399.3	8.6
70°-80°	226.2	4.9
80°-90°	61.8	1.3
90°-100°	12.8	0.3
100°-110°	47.1	1.0
110°-120°	125.8	2.7
120°-130°	207.7	4.5
130°-140°	220.8	4.8
140°-150°	205.3	4.4
150°-160°	165.0	3.6
160°-170°	106.3	2.3
170°-180°	36.6	0.8
0°-30°	1025.8	22.2
0°-40°	1645.7	35.6
0°-60°	2805.0	60.7
0°-90°	3492.3	75.6
90°-120°	185.7	4.0
90°-150°	819.5	17.7
90°-180°	1127.0	24.4
0°-180°	4619.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1372	1372	1372	1372	1372	
5°	1372	1366	1352	1362	1360	130
15°	1306	1298	1281	1286	1280	368
25°	1182	1171	1149	1152	1149	544
35°	1020	1006	986	978	971	637
45°	830	820	801	787	781	640
55°	628	620	604	589	582	561
65°	424	415	402	391	384	419
75°	222	219	212	205	207	237
85°	54	53	52	48	46	62
90°	0	3	6	7	8	3
95°	18	10	11	12	12	22
105°	85	88	17	20	21	90
115°	160	165	172	49	23	158
125°	226	230	235	237	238	202
135°	280	284	287	290	289	216
145°	325	325	329	331	330	203
155°	358	356	358	360	358	165
165°	377	375	376	378	376	106
175°	386	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°	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3
2.5°	1378.6	1377.4	1376.3	1375.1	1373.9	1372.1	1369.5	1366.9	1364.3	1361.8	1364.1
5°	1372.3	1371.1	1369.9	1368.7	1367.6	1365.4	1362.2	1358.9	1355.7	1352.5	1354.9
7.5°	1360.1	1358.3	1356.5	1354.7	1352.9	1350.3	1347.0	1343.8	1340.5	1337.2	1339.5
10°	1348.5	1346.5	1344.5	1342.4	1340.3	1337.6	1334.0	1330.5	1327.0	1323.4	1325.9
12.5°	1332.7	1330.8	1329.0	1327.2	1325.4	1322.8	1319.2	1315.7	1312.3	1308.7	1310.4
15°	1306.3	1304.6	1302.8	1301.1	1299.2	1296.5	1292.7	1288.8	1285.0	1281.3	1282.5
17.5°	1272.6	1270.7	1269.0	1267.2	1265.5	1262.7	1258.8	1254.9	1251.0	1247.2	1248.5
20°	1248.3	1246.5	1244.7	1242.9	1241.2	1238.3	1234.2	1230.1	1226.0	1221.8	1222.7
22.5°	1224.0	1221.5	1219.1	1216.6	1214.1	1211.0	1207.1	1203.2	1199.4	1195.5	1195.7
25°	1182.3	1179.9	1177.6	1175.3	1172.9	1169.2	1164.2	1159.3	1154.3	1149.3	1149.9
27.5°	1134.8	1132.6	1130.6	1128.4	1126.4	1123.3	1119.4	1115.4	1111.6	1107.6	1106.7
30°	1103.1	1100.8	1098.4	1096.1	1093.7	1090.4	1086.0	1081.6	1077.2	1072.7	1071.9
32.5°	1069.4	1067.5	1065.6	1063.7	1061.8	1058.6	1054.0	1049.3	1044.7	1040.0	1038.5
35°	1019.9	1017.0	1014.1	1011.2	1008.2	1004.4	999.7	995.1	990.4	985.7	984.0
37.5°	964.3	961.7	959.2	956.6	954.0	950.4	945.6	941.0	936.3	931.6	929.4
40°	926.3	923.9	921.6	919.3	916.9	913.4	908.7	904.0	899.3	894.7	892.0
42.5°	889.3	887.0	884.7	882.4	879.9	876.4	871.8	867.0	862.4	857.6	854.8
45°	830.0	827.9	825.9	823.8	821.7	818.6	814.2	809.8	805.4	800.9	797.7
47.5°	770.9	769.0	767.0	765.1	763.1	759.8	755.3	750.7	746.1	741.6	738.1
50°	729.7	728.2	726.8	725.3	723.8	721.0	717.0	712.8	708.7	704.6	700.5
52.5°	689.6	687.7	685.7	683.8	681.8	678.9	675.0	671.1	667.4	663.5	660.0
55°	628.1	626.3	624.6	622.8	621.0	618.4	614.9	611.4	607.9	604.3	600.8
57.5°	566.4	564.9	563.5	562.1	560.7	558.1	554.2	550.4	546.5	542.6	539.2
60°	525.1	524.0	522.8	521.7	520.5	517.8	513.8	509.6	505.5	501.4	498.2
62.5°	485.1	483.2	481.3	479.4	477.5	475.0	471.8	468.7	465.5	462.4	459.3
65°	423.5	421.8	420.1	418.3	416.6	414.1	411.2	408.3	405.4	402.4	399.8
67.5°	361.0	359.6	358.2	356.8	355.4	353.4	350.7	348.1	345.4	342.9	340.8
70°	321.9	320.8	319.6	318.5	317.3	315.4	312.7	310.0	307.5	304.8	302.7
72.5°	281.8	280.7	279.5	278.4	277.2	275.7	274.1	272.3	270.6	268.9	266.8
75°	221.7	221.1	220.5	219.9	219.3	218.3	216.8	215.3	213.9	212.4	210.7
77.5°	167.8	166.9	165.8	164.9	163.8	163.1	162.5	161.9	161.3	160.7	159.8
80°	132.0	131.6	131.4	131.0	130.8	130.4	129.8	129.2	128.5	128.0	127.1
82.5°	98.2	98.2	98.1	98.0	97.9	97.7	97.4	97.0	96.7	96.3	95.2
85°	54.1	53.8	53.6	53.2	53.0	52.6	52.3	52.0	51.7	51.5	50.5
87.5°	19.0	18.7	18.4	18.1	17.7	17.4	17.0	16.6	16.3	15.9	15.2
90°	0.3	0.9	1.6	2.3	3.0	3.6	4.0	4.6	5.1	5.6	5.9
92.5°	5.6	5.6	5.5	5.4	5.3	5.5	5.7	5.9	6.2	6.5	6.6
95°	18.1	16.0	14.0	12.0	9.9	9.1	9.6	10.0	10.4	10.8	11.2
97.5°	35.9	30.1	24.4	18.7	12.9	10.5	11.5	12.5	13.5	14.6	14.8
100°	49.2	40.8	32.3	23.8	15.4	11.6	12.7	13.8	14.8	15.8	16.4
102.5°	64.0	62.2	60.4	58.6	56.8	51.5	42.7	33.9	25.1	16.3	17.0
105°	84.6	86.4	88.3	90.2	92.0	84.6	67.7	50.8	33.8	17.0	17.7
107.5°	108.1	109.7	111.2	112.7	114.2	104.8	84.6	64.3	44.0	23.8	23.1
110°	123.3	124.6	126.0	127.3	128.5	120.2	102.4	84.5	66.6	48.7	42.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	137.6	138.7	139.9	141.0	142.2	140.5	136.1	131.7	127.3	122.9	100.3
115°	160.1	161.1	162.2	163.2	164.3	165.6	167.1	168.7	170.2	171.8	143.1
117.5°	180.2	181.3	182.5	183.7	184.9	186.0	187.1	188.1	189.2	190.3	183.3
120°	194.8	195.8	196.7	197.7	198.5	199.6	200.7	201.8	202.9	204.1	204.8
122.5°	207.3	208.4	209.3	210.3	211.3	212.3	213.5	214.7	216.0	217.2	217.7
125°	226.4	227.1	227.9	228.8	229.5	230.6	231.7	232.9	234.0	235.2	235.7
127.5°	243.5	244.4	245.3	246.2	247.1	248.0	248.8	249.8	250.6	251.5	252.1
130°	254.4	255.5	256.4	257.4	258.4	259.2	259.9	260.6	261.3	262.0	262.6
132.5°	265.6	266.4	267.3	268.1	269.0	269.7	270.4	271.0	271.7	272.4	273.0
135°	280.1	281.0	282.1	283.0	284.0	284.8	285.3	285.9	286.5	287.1	287.7
137.5°	294.7	295.4	296.1	296.8	297.5	298.2	298.8	299.4	300.1	300.7	301.3
140°	304.3	304.8	305.2	305.7	306.3	306.9	307.5	308.2	308.9	309.5	310.1
142.5°	312.3	312.7	313.1	313.7	314.1	314.7	315.5	316.2	317.0	317.8	318.3
145°	324.9	324.9	324.8	324.7	324.6	325.1	326.1	327.3	328.3	329.3	329.8
147.5°	335.9	335.6	335.4	335.1	334.9	335.3	336.3	337.4	338.5	339.5	339.8
150°	342.9	342.5	342.1	341.6	341.2	341.6	342.5	343.5	344.5	345.5	345.9
152.5°	349.0	348.5	348.0	347.5	347.1	347.2	348.2	349.1	350.1	351.0	351.4
155°	357.7	357.1	356.6	356.0	355.5	355.6	356.4	357.1	357.8	358.5	359.0
157.5°	364.5	364.1	363.6	363.2	362.7	362.7	363.3	363.8	364.3	364.8	365.2
160°	368.6	368.2	367.8	367.5	367.1	367.1	367.5	367.8	368.2	368.6	368.9
162.5°	372.1	371.8	371.4	371.0	370.7	370.7	370.9	371.3	371.6	372.0	372.4
165°	376.9	376.6	376.2	375.8	375.5	375.4	375.6	375.7	375.9	376.1	376.5
167.5°	380.5	380.1	379.8	379.4	379.0	378.9	379.1	379.3	379.4	379.6	380.0
170°	382.5	382.1	381.8	381.4	381.0	380.9	381.0	381.2	381.3	381.4	381.9
172.5°	383.8	383.5	383.1	382.7	382.4	382.2	382.4	382.5	382.6	382.7	383.1
175°	385.6	385.1	384.7	384.3	383.8	383.7	383.8	383.9	384.1	384.2	384.6
177.5°	385.8	385.5	385.1	384.8	384.4	384.4	384.4	384.4	384.4	384.5	384.9
180°	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3	1372.3
2.5°	1366.4	1368.7	1371.1	1372.1	1371.6	1371.1	1370.6	1370.2
5°	1357.2	1359.5	1361.8	1362.8	1362.2	1361.6	1361.0	1360.4
7.5°	1341.9	1344.2	1346.6	1347.5	1346.8	1346.2	1345.5	1344.9
10°	1328.2	1330.5	1332.8	1333.6	1332.7	1331.8	1330.9	1330.1
12.5°	1312.0	1313.6	1315.3	1315.8	1315.1	1314.5	1313.8	1313.2
15°	1283.6	1284.8	1285.9	1285.8	1284.4	1282.9	1281.4	1280.0
17.5°	1249.9	1251.3	1252.6	1252.6	1251.1	1249.7	1248.4	1246.9
20°	1223.7	1224.5	1225.4	1225.2	1224.1	1222.9	1221.8	1220.6
22.5°	1195.8	1196.0	1196.2	1195.9	1195.2	1194.6	1193.8	1193.1
25°	1150.5	1151.1	1151.7	1151.7	1151.1	1150.5	1149.9	1149.3
27.5°	1105.9	1104.9	1104.1	1102.9	1101.6	1100.1	1098.7	1097.3
30°	1071.0	1070.1	1069.3	1068.2	1067.0	1065.8	1064.7	1063.5
32.5°	1036.9	1035.3	1033.7	1032.3	1031.1	1030.0	1028.8	1027.6
35°	982.1	980.4	978.6	977.1	975.6	974.1	972.6	971.1
37.5°	927.2	925.1	922.9	921.1	919.7	918.3	916.9	915.5
40°	889.3	886.7	884.1	882.2	881.0	879.9	878.7	877.4
42.5°	852.0	849.0	846.2	844.0	842.3	840.7	839.0	837.3
45°	794.5	791.3	788.1	785.8	784.6	783.5	782.3	781.2
47.5°	734.8	731.3	728.0	725.4	723.7	722.0	720.3	718.6
50°	696.4	692.3	688.2	685.4	684.0	682.5	681.1	679.6
52.5°	656.7	653.2	649.9	647.2	645.2	643.3	641.4	639.5
55°	597.3	593.7	590.3	587.8	586.3	584.9	583.4	581.9
57.5°	535.6	532.2	528.7	526.4	525.4	524.3	523.1	522.0
60°	495.0	491.7	488.5	486.5	485.6	484.7	483.8	482.9
62.5°	456.4	453.4	450.4	448.3	447.2	446.1	445.0	443.8
65°	397.2	394.5	391.9	389.9	388.4	386.9	385.5	384.0
67.5°	338.7	336.7	334.6	332.9	331.8	330.6	329.5	328.3
70°	300.7	298.7	296.6	295.0	293.8	292.7	291.4	290.3
72.5°	264.8	262.8	260.7	259.2	258.3	257.4	256.4	255.5
75°	209.0	207.2	205.4	204.8	205.4	206.0	206.6	207.2
77.5°	158.9	158.1	157.2	156.4	155.5	154.7	153.9	153.1
80°	126.2	125.4	124.5	123.7	123.1	122.6	122.0	121.4
82.5°	94.1	93.0	91.9	91.3	91.1	91.0	90.9	90.7
85°	49.7	48.8	48.0	47.4	47.1	46.8	46.5	46.1
87.5°	14.6	13.9	13.3	12.9	12.7	12.5	12.2	12.1
90°	6.2	6.5	6.8	7.1	7.1	7.2	7.4	7.5
92.5°	6.8	7.0	7.1	7.2	7.3	7.4	7.4	7.5
95°	11.5	11.8	12.1	12.2	12.1	12.1	12.1	12.0
97.5°	15.1	15.2	15.5	15.7	15.8	15.8	15.9	16.0
100°	16.9	17.4	17.8	18.2	18.3	18.4	18.5	18.7
102.5°	17.6	18.3	18.9	19.3	19.5	19.6	19.8	20.0
105°	18.3	19.0	19.7	20.1	20.4	20.7	20.9	21.2
107.5°	22.4	21.7	21.0	20.8	21.0	21.3	21.5	21.8
110°	36.3	30.1	23.9	21.0	21.3	21.5	21.8	22.0





TEST NUMBER: P331426-935

CATALOG NUMBER: SA2XXDIP-C1005D330U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	77.7	55.2	32.6	21.4	21.6	21.8	22.0	22.2
115°	114.5	85.8	57.2	40.6	36.2	31.8	27.3	22.8
117.5°	176.4	169.4	162.6	151.8	137.2	122.5	107.9	93.2
120°	205.5	206.3	207.0	203.2	194.8	186.5	178.1	169.8
122.5°	218.1	218.5	219.0	218.3	216.8	215.2	213.5	211.9
125°	236.1	236.5	236.9	237.3	237.5	237.6	237.8	238.0
127.5°	252.8	253.4	254.0	254.3	254.4	254.4	254.4	254.5
130°	263.3	264.0	264.7	265.0	264.9	264.8	264.8	264.8
132.5°	273.6	274.1	274.7	275.0	274.9	274.9	274.8	274.7
135°	288.3	288.9	289.5	289.7	289.6	289.5	289.4	289.2
137.5°	301.9	302.5	303.1	303.2	303.1	302.9	302.6	302.5
140°	310.6	311.3	311.8	311.9	311.6	311.3	311.0	310.6
142.5°	318.8	319.3	319.9	319.9	319.6	319.3	319.0	318.7
145°	330.2	330.6	331.1	331.1	330.8	330.5	330.2	329.8
147.5°	340.1	340.4	340.8	340.8	340.5	340.3	340.0	339.8
150°	346.2	346.6	347.0	347.0	346.7	346.4	346.0	345.8
152.5°	351.8	352.1	352.5	352.5	352.1	351.7	351.3	350.9
155°	359.3	359.6	360.1	360.0	359.5	359.0	358.5	358.0
157.5°	365.7	366.1	366.4	366.4	365.9	365.5	365.0	364.5
160°	369.4	369.7	370.1	370.1	369.6	369.2	368.8	368.3
162.5°	372.7	373.2	373.6	373.6	373.0	372.5	372.0	371.4
165°	376.9	377.4	377.8	377.8	377.4	376.9	376.5	376.1
167.5°	380.5	380.9	381.3	381.3	380.7	380.1	379.6	379.0
170°	382.3	382.7	383.1	383.1	382.5	381.9	381.4	380.8
172.5°	383.6	384.0	384.4	384.4	383.8	383.3	382.7	382.2
175°	385.0	385.5	385.9	385.8	385.2	384.6	383.9	383.3
177.5°	385.2	385.6	385.9	385.8	385.4	385.0	384.5	384.1
180°	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7

(END OF REPORT)