

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: P331426-927

Luminaire Tested: **SA2XXDIP-C1005D330U927-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331426-927  
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-C1005D330U927-4F0-1E-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**

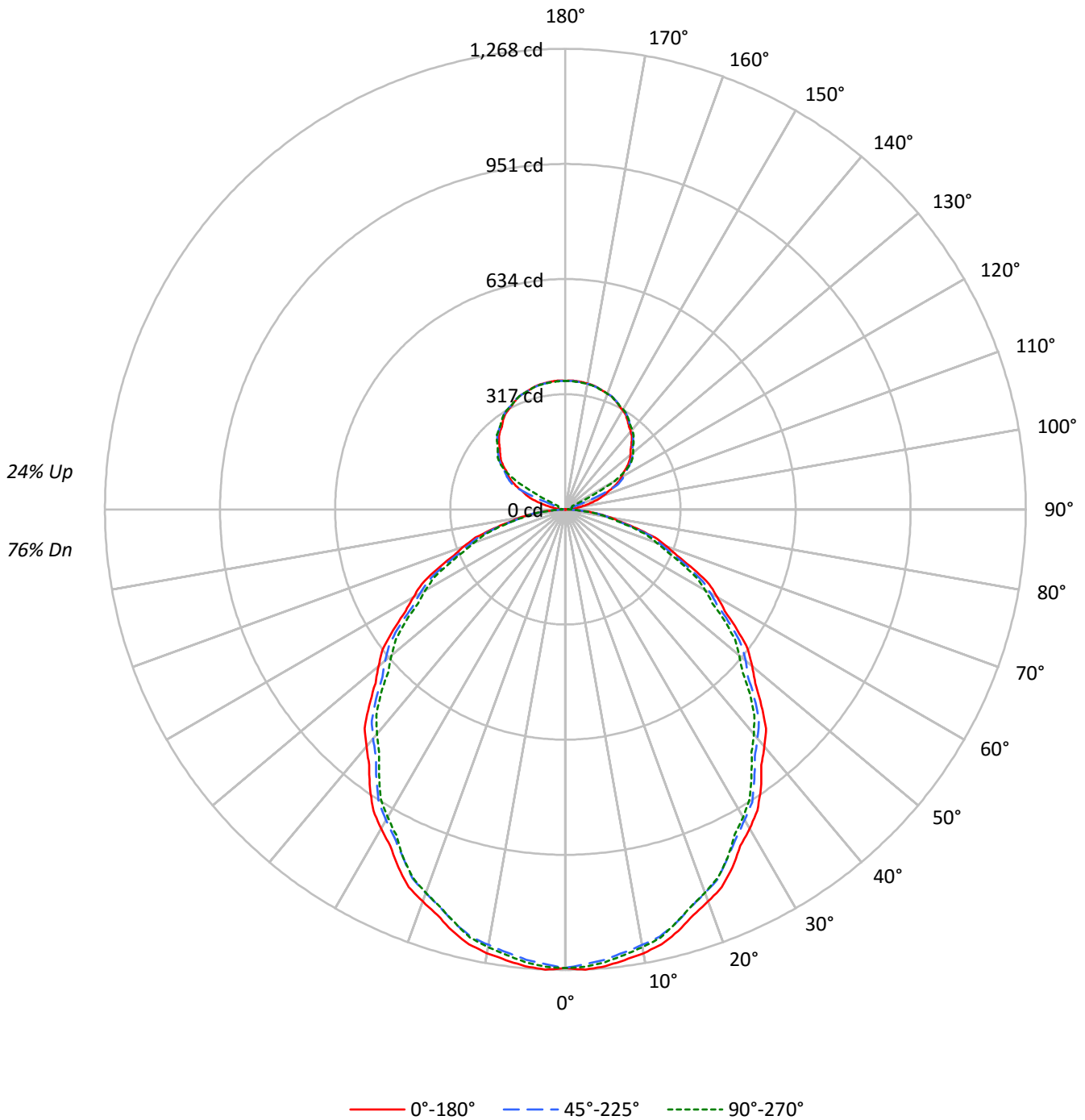
Lumens per Lamp: N/A  
Luminaire Lumens: 4250.5 lumens  
Efficiency: N/A  
Efficacy: 85.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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°	20386	20386	20386
5°	20464	20169	20285
10°	20341	19964	20064
15°	20090	19704	19686
20°	19734	19316	19295
25°	19379	18838	18838
30°	18921	18401	18243
35°	18496	17875	17611
40°	17962	17351	17015
45°	17438	16826	16411
50°	16865	16284	15707
55°	16268	15651	15071
60°	15603	14899	14347
65°	14888	14147	13498
70°	13983	13237	12609
75°	12726	12190	11890
80°	11288	10953	10386
85°	9207	8781	7873



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.7	2.8
10°-20°	334.1	7.9
20°-30°	491.0	11.6
30°-40°	570.4	13.4
40°-50°	569.8	13.4
50°-60°	496.9	11.7
60°-70°	367.4	8.6
70°-80°	208.1	4.9
80°-90°	56.8	1.3
90°-100°	11.8	0.3
100°-110°	43.3	1.0
110°-120°	115.7	2.7
120°-130°	191.1	4.5
130°-140°	203.2	4.8
140°-150°	188.9	4.4
150°-160°	151.8	3.6
160°-170°	97.8	2.3
170°-180°	33.7	0.8
0°-30°	943.8	22.2
0°-40°	1514.2	35.6
0°-60°	2580.8	60.7
0°-90°	3213.1	75.6
90°-120°	170.8	4.0
90°-150°	754.0	17.7
90°-180°	1037.0	24.4
0°-180°	4250.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1263	1257	1244	1253	1252	120
15°	1202	1194	1179	1183	1178	338
25°	1088	1078	1057	1060	1057	500
35°	938	926	907	900	894	586
45°	764	755	737	724	719	589
55°	578	570	556	542	535	517
65°	390	382	370	360	353	385
75°	204	201	195	189	191	218
85°	50	49	47	44	42	57
90°	0	3	5	6	7	3
95°	17	9	10	11	11	20
105°	78	81	16	18	20	83
115°	147	152	158	45	21	145
125°	208	212	216	218	219	186
135°	258	262	264	266	266	199
145°	299	299	303	305	304	187
155°	329	327	330	331	329	152
165°	347	345	346	348	346	98
175°	355	353	354	355	353	34
180°	354	354	354	354	354	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1268.4	1267.3	1266.3	1265.2	1264.1	1262.4	1260.0	1257.7	1255.3	1252.9	1255.1
5°	1262.6	1261.6	1260.4	1259.3	1258.3	1256.2	1253.3	1250.3	1247.4	1244.4	1246.6
7.5°	1251.4	1249.7	1248.1	1246.4	1244.8	1242.4	1239.4	1236.4	1233.3	1230.3	1232.5
10°	1240.7	1238.9	1237.0	1235.1	1233.2	1230.7	1227.4	1224.2	1220.9	1217.7	1219.9
12.5°	1226.2	1224.5	1222.8	1221.1	1219.5	1217.0	1213.8	1210.5	1207.4	1204.1	1205.6
15°	1201.9	1200.3	1198.7	1197.1	1195.4	1192.9	1189.4	1185.8	1182.3	1178.8	1180.0
17.5°	1170.8	1169.2	1167.6	1165.9	1164.3	1161.7	1158.2	1154.6	1151.0	1147.6	1148.7
20°	1148.5	1146.8	1145.3	1143.6	1142.0	1139.3	1135.5	1131.8	1128.0	1124.2	1125.0
22.5°	1126.2	1123.9	1121.7	1119.4	1117.1	1114.2	1110.6	1107.1	1103.5	1099.9	1100.1
25°	1087.8	1085.6	1083.5	1081.3	1079.2	1075.8	1071.2	1066.6	1062.0	1057.4	1058.0
27.5°	1044.1	1042.1	1040.2	1038.2	1036.3	1033.6	1029.9	1026.3	1022.7	1019.1	1018.3
30°	1014.9	1012.8	1010.6	1008.4	1006.3	1003.2	999.2	995.1	991.1	987.0	986.2
32.5°	983.9	982.1	980.4	978.7	976.9	974.0	969.7	965.4	961.2	956.9	955.5
35°	938.4	935.7	933.0	930.3	927.6	924.2	919.8	915.5	911.2	906.9	905.3
37.5°	887.2	884.9	882.5	880.1	877.7	874.4	870.1	865.8	861.4	857.1	855.1
40°	852.2	850.1	848.0	845.8	843.6	840.4	836.1	831.8	827.4	823.2	820.7
42.5°	818.2	816.1	814.0	811.8	809.6	806.4	802.1	797.7	793.4	789.1	786.5
45°	763.7	761.8	759.9	758.0	756.1	753.1	749.1	745.0	741.0	736.9	734.0
47.5°	709.2	707.5	705.7	703.9	702.1	699.1	694.9	690.7	686.5	682.3	679.1
50°	671.4	670.0	668.7	667.3	666.0	663.4	659.7	655.8	652.0	648.3	644.5
52.5°	634.5	632.7	630.9	629.2	627.3	624.6	621.1	617.5	614.0	610.5	607.3
55°	577.9	576.2	574.6	573.1	571.4	568.9	565.8	562.5	559.3	556.0	552.8
57.5°	521.1	519.8	518.5	517.2	515.9	513.5	509.9	506.4	502.8	499.2	496.1
60°	483.2	482.1	481.0	480.0	478.9	476.4	472.7	468.9	465.1	461.4	458.4
62.5°	446.3	444.6	442.8	441.1	439.3	437.0	434.1	431.3	428.3	425.4	422.6
65°	389.7	388.1	386.5	384.8	383.3	381.0	378.3	375.7	373.0	370.3	367.9
67.5°	332.2	330.9	329.5	328.3	327.0	325.1	322.7	320.3	317.8	315.4	313.5
70°	296.2	295.2	294.1	293.0	291.9	290.2	287.7	285.3	282.9	280.4	278.5
72.5°	259.3	258.3	257.1	256.1	255.0	253.7	252.2	250.6	249.0	247.4	245.5
75°	204.0	203.4	202.9	202.3	201.8	200.8	199.5	198.1	196.8	195.4	193.8
77.5°	154.4	153.5	152.6	151.7	150.8	150.0	149.5	148.9	148.4	147.9	147.0
80°	121.4	121.1	120.9	120.6	120.3	119.9	119.4	118.8	118.3	117.8	116.9
82.5°	90.3	90.3	90.2	90.2	90.1	89.9	89.6	89.3	89.0	88.6	87.6
85°	49.7	49.5	49.3	49.0	48.7	48.4	48.2	47.8	47.6	47.4	46.5
87.5°	17.5	17.2	17.0	16.6	16.3	16.0	15.6	15.3	15.0	14.7	14.0
90°	0.2	0.9	1.5	2.1	2.8	3.3	3.7	4.2	4.7	5.1	5.4
92.5°	5.1	5.1	5.1	5.0	4.9	5.1	5.2	5.5	5.7	5.9	6.1
95°	16.6	14.7	12.9	11.0	9.1	8.4	8.8	9.2	9.6	10.0	10.3
97.5°	33.0	27.7	22.4	17.2	11.9	9.7	10.6	11.5	12.4	13.4	13.6
100°	45.3	37.5	29.7	21.9	14.2	10.7	11.7	12.7	13.6	14.6	15.1
102.5°	58.9	57.2	55.5	53.9	52.3	47.4	39.3	31.2	23.1	15.0	15.6
105°	77.9	79.5	81.3	83.0	84.7	77.8	62.3	46.7	31.1	15.6	16.2
107.5°	99.5	100.9	102.3	103.7	105.0	96.4	77.8	59.2	40.5	21.9	21.2
110°	113.4	114.6	115.9	117.1	118.3	110.6	94.2	77.7	61.2	44.8	39.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	126.6	127.6	128.7	129.8	130.8	129.3	125.2	121.2	117.1	113.0	92.3
115°	147.3	148.2	149.2	150.2	151.1	152.3	153.8	155.2	156.6	158.0	131.7
117.5°	165.8	166.8	167.9	169.1	170.1	171.1	172.1	173.1	174.0	175.1	168.7
120°	179.3	180.1	181.0	181.9	182.7	183.6	184.7	185.7	186.7	187.7	188.5
122.5°	190.8	191.7	192.6	193.5	194.4	195.4	196.5	197.6	198.8	199.9	200.3
125°	208.3	209.0	209.7	210.5	211.2	212.1	213.2	214.3	215.3	216.4	216.8
127.5°	224.0	224.9	225.7	226.6	227.4	228.1	228.9	229.8	230.6	231.4	232.0
130°	234.1	235.0	235.9	236.9	237.7	238.5	239.2	239.8	240.4	241.1	241.6
132.5°	244.4	245.1	245.9	246.7	247.5	248.1	248.7	249.4	250.0	250.6	251.2
135°	257.7	258.6	259.5	260.4	261.3	262.1	262.5	263.1	263.6	264.1	264.7
137.5°	271.2	271.8	272.4	273.1	273.7	274.3	274.9	275.4	276.1	276.6	277.2
140°	280.0	280.4	280.8	281.3	281.8	282.3	283.0	283.6	284.2	284.8	285.3
142.5°	287.3	287.7	288.1	288.6	289.0	289.5	290.3	291.0	291.7	292.4	292.9
145°	298.9	298.9	298.8	298.7	298.7	299.1	300.1	301.1	302.1	303.0	303.4
147.5°	309.0	308.8	308.6	308.3	308.2	308.5	309.4	310.5	311.4	312.4	312.6
150°	315.5	315.1	314.7	314.3	313.9	314.3	315.1	316.1	317.0	317.9	318.2
152.5°	321.1	320.7	320.2	319.7	319.3	319.5	320.4	321.2	322.1	323.0	323.3
155°	329.2	328.6	328.1	327.6	327.1	327.2	327.9	328.5	329.2	329.9	330.3
157.5°	335.4	335.0	334.5	334.1	333.7	333.7	334.2	334.7	335.2	335.6	336.0
160°	339.1	338.8	338.4	338.1	337.8	337.8	338.1	338.4	338.8	339.1	339.5
162.5°	342.4	342.1	341.7	341.4	341.0	341.0	341.3	341.6	341.9	342.2	342.6
165°	346.8	346.5	346.1	345.8	345.5	345.4	345.5	345.7	345.9	346.0	346.4
167.5°	350.1	349.7	349.4	349.0	348.7	348.6	348.8	349.0	349.1	349.3	349.7
170°	352.0	351.6	351.3	350.9	350.5	350.5	350.5	350.7	350.8	350.9	351.3
172.5°	353.2	352.8	352.4	352.1	351.8	351.6	351.8	351.9	352.0	352.1	352.5
175°	354.7	354.3	353.9	353.6	353.2	353.0	353.2	353.2	353.4	353.5	353.9
177.5°	355.0	354.7	354.3	354.0	353.7	353.6	353.6	353.7	353.7	353.8	354.1
180°	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1257.2	1259.3	1261.6	1262.4	1261.9	1261.6	1261.1	1260.7
5°	1248.7	1250.9	1253.0	1253.9	1253.3	1252.8	1252.2	1251.6
7.5°	1234.6	1236.8	1239.0	1239.8	1239.1	1238.6	1237.9	1237.4
10°	1222.0	1224.2	1226.3	1227.0	1226.2	1225.3	1224.6	1223.8
12.5°	1207.1	1208.6	1210.1	1210.6	1210.0	1209.4	1208.8	1208.2
15°	1181.0	1182.1	1183.1	1183.0	1181.7	1180.4	1179.0	1177.7
17.5°	1150.0	1151.3	1152.5	1152.5	1151.1	1149.9	1148.6	1147.2
20°	1125.8	1126.6	1127.4	1127.3	1126.2	1125.1	1124.1	1123.0
22.5°	1100.3	1100.4	1100.6	1100.3	1099.7	1099.1	1098.4	1097.7
25°	1058.5	1059.1	1059.6	1059.6	1059.1	1058.5	1058.0	1057.4
27.5°	1017.5	1016.6	1015.8	1014.8	1013.5	1012.2	1010.9	1009.6
30°	985.4	984.6	983.8	982.9	981.8	980.6	979.6	978.5
32.5°	954.0	952.5	951.1	949.8	948.7	947.7	946.6	945.5
35°	903.6	902.1	900.4	899.0	897.6	896.3	894.8	893.5
37.5°	853.1	851.1	849.1	847.5	846.2	844.9	843.6	842.3
40°	818.2	815.9	813.4	811.7	810.6	809.5	808.4	807.3
42.5°	783.9	781.2	778.6	776.5	775.0	773.5	772.0	770.4
45°	731.0	728.0	725.1	723.0	721.9	720.9	719.8	718.7
47.5°	676.0	672.9	669.8	667.4	665.8	664.3	662.7	661.2
50°	640.7	637.0	633.2	630.7	629.3	628.0	626.6	625.3
52.5°	604.2	601.0	597.9	595.5	593.7	591.9	590.1	588.4
55°	549.5	546.3	543.1	540.8	539.5	538.1	536.8	535.4
57.5°	492.8	489.6	486.5	484.3	483.4	482.4	481.3	480.3
60°	455.4	452.4	449.5	447.6	446.8	446.0	445.1	444.3
62.5°	419.9	417.2	414.4	412.5	411.5	410.4	409.4	408.4
65°	365.4	363.0	360.6	358.7	357.4	356.0	354.7	353.3
67.5°	311.6	309.7	307.8	306.3	305.3	304.2	303.2	302.1
70°	276.6	274.8	272.9	271.4	270.3	269.3	268.2	267.1
72.5°	243.7	241.8	239.9	238.5	237.7	236.8	235.9	235.0
75°	192.3	190.6	189.0	188.5	189.0	189.5	190.0	190.6
77.5°	146.2	145.4	144.7	143.9	143.1	142.4	141.6	140.9
80°	116.1	115.3	114.5	113.8	113.3	112.8	112.3	111.7
82.5°	86.6	85.6	84.5	84.0	83.8	83.7	83.7	83.5
85°	45.7	44.9	44.1	43.6	43.3	43.0	42.8	42.5
87.5°	13.5	12.8	12.3	11.9	11.6	11.5	11.2	11.1
90°	5.7	5.9	6.3	6.5	6.6	6.7	6.8	6.9
92.5°	6.3	6.4	6.5	6.7	6.7	6.8	6.8	6.9
95°	10.5	10.9	11.1	11.2	11.2	11.1	11.1	11.0
97.5°	13.9	14.0	14.3	14.4	14.5	14.6	14.7	14.7
100°	15.5	16.0	16.4	16.7	16.8	17.0	17.0	17.2
102.5°	16.2	16.8	17.3	17.7	17.9	18.1	18.2	18.4
105°	16.9	17.5	18.1	18.5	18.8	19.0	19.3	19.5
107.5°	20.6	20.0	19.3	19.1	19.3	19.6	19.8	20.0
110°	33.4	27.7	22.0	19.3	19.6	19.8	20.0	20.2





TEST NUMBER: P331426-927

CATALOG NUMBER: SA2XXDIP-C1005D330U927-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	71.5	50.8	30.0	19.7	19.9	20.0	20.3	20.4
115°	105.4	79.0	52.6	37.4	33.3	29.2	25.1	21.0
117.5°	162.3	155.9	149.6	139.7	126.2	112.7	99.3	85.8
120°	189.1	189.8	190.4	187.0	179.3	171.6	163.9	156.2
122.5°	200.7	201.1	201.5	200.9	199.5	198.0	196.5	195.0
125°	217.2	217.6	218.0	218.3	218.5	218.6	218.8	219.0
127.5°	232.6	233.1	233.7	234.0	234.1	234.1	234.1	234.2
130°	242.2	242.9	243.5	243.8	243.8	243.7	243.7	243.6
132.5°	251.8	252.2	252.8	253.0	252.9	252.9	252.9	252.8
135°	265.2	265.8	266.3	266.6	266.5	266.3	266.3	266.1
137.5°	277.7	278.3	278.8	279.0	278.8	278.7	278.5	278.3
140°	285.8	286.4	286.8	287.0	286.7	286.5	286.1	285.8
142.5°	293.3	293.8	294.3	294.4	294.1	293.8	293.5	293.2
145°	303.8	304.2	304.6	304.7	304.4	304.1	303.8	303.5
147.5°	312.9	313.2	313.5	313.5	313.3	313.1	312.8	312.6
150°	318.5	318.9	319.2	319.2	319.0	318.7	318.4	318.1
152.5°	323.7	324.0	324.3	324.3	323.9	323.6	323.2	322.8
155°	330.6	330.9	331.3	331.2	330.7	330.3	329.9	329.4
157.5°	336.4	336.8	337.2	337.2	336.7	336.3	335.8	335.4
160°	339.8	340.2	340.5	340.5	340.1	339.7	339.3	338.9
162.5°	342.9	343.3	343.7	343.7	343.2	342.7	342.2	341.7
165°	346.8	347.2	347.6	347.6	347.2	346.8	346.4	346.0
167.5°	350.1	350.5	350.9	350.8	350.3	349.7	349.3	348.7
170°	351.7	352.1	352.5	352.4	352.0	351.4	350.9	350.4
172.5°	352.9	353.3	353.7	353.7	353.2	352.7	352.1	351.6
175°	354.3	354.7	355.1	355.0	354.4	353.9	353.2	352.7
177.5°	354.4	354.7	355.1	355.0	354.6	354.2	353.8	353.4
180°	353.9	353.9	353.9	353.9	353.9	353.9	353.9	353.9

(END OF REPORT)