

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: P332190-927

Luminaire Tested: **S123DIW-S1000D755U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332190-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S1000D755U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5657.8 lumens  
Efficiency: N/A  
Efficacy: 105.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

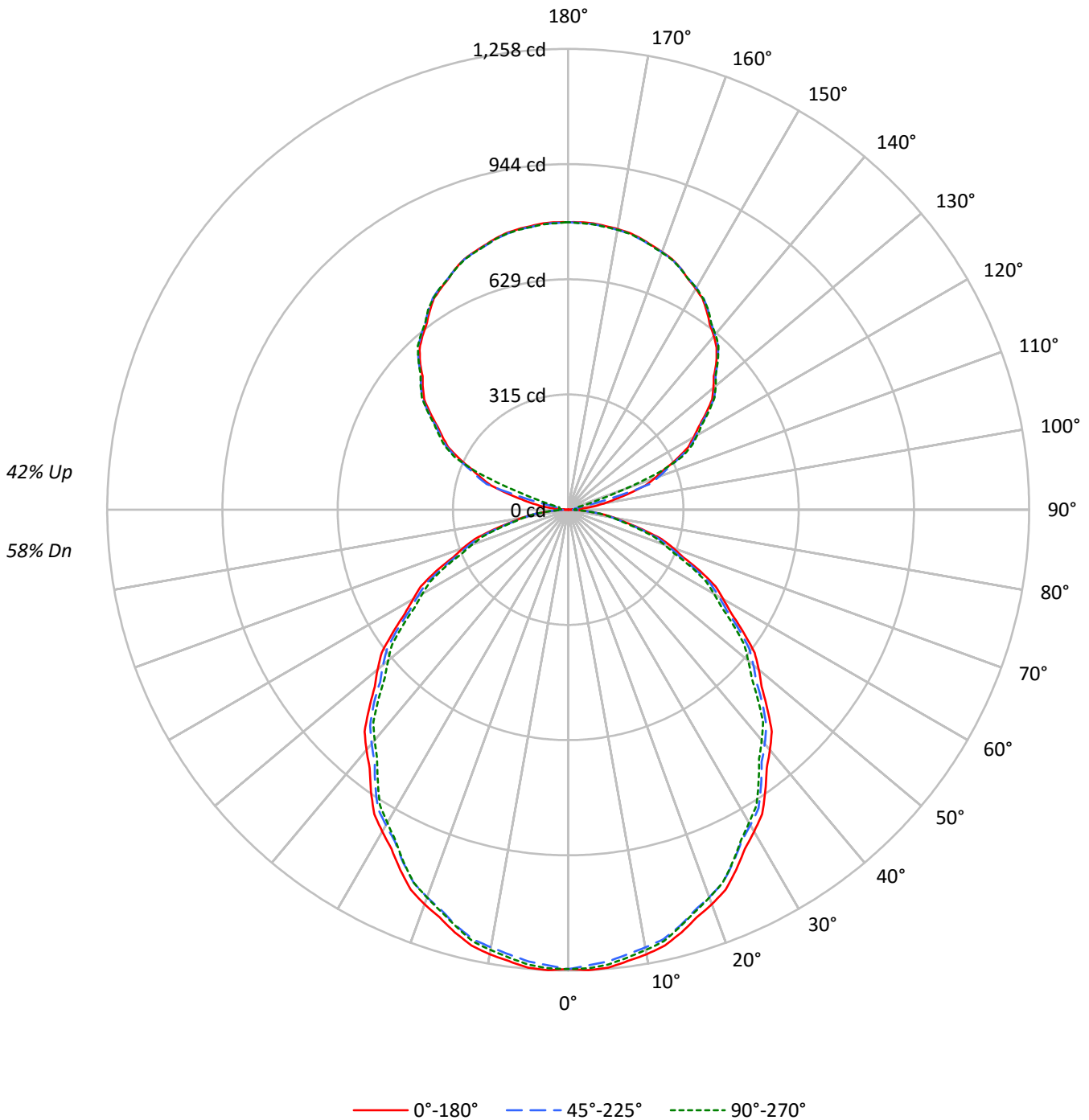
Input Watts (W): 53.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58
1	99	95	91	87	92	89	85	82	77	74	72	66	64	62	56	54	53	48
2	91	83	77	71	84	77	72	67	67	63	59	58	55	52	49	47	45	41
3	83	73	65	59	77	68	62	56	59	54	50	51	47	44	43	41	38	34
4	76	65	56	50	70	60	53	48	53	47	43	45	41	38	39	36	33	29
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	31	29	26
6	64	52	43	37	59	48	41	36	43	37	32	37	32	29	32	28	25	22
7	59	47	39	33	55	44	37	31	39	33	28	34	29	25	29	25	22	20
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	27	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	25	21	18	16
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16	15

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

	0°	45°	90°
0°	13497	13497	13497
5°	13560	13374	13467
10°	13470	13258	13340
15°	13312	13108	13133
20°	13128	12893	12906
25°	12883	12638	12613
30°	12609	12356	12261
35°	12326	12056	11901
40°	12029	11726	11545
45°	11702	11423	11144
50°	11375	11050	10742
55°	10946	10663	10340
60°	10514	10213	9888
65°	10132	9722	9419
70°	9567	9161	8752
75°	8742	8430	8072
80°	7885	7550	7482
85°	6928	6657	6385



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.1	2.1
10°-20°	333.5	5.9
20°-30°	492.7	8.7
30°-40°	575.5	10.2
40°-50°	578.6	10.2
50°-60°	508.2	9.0
60°-70°	378.6	6.7
70°-80°	215.7	3.8
80°-90°	64.1	1.1
90°-100°	28.5	0.5
100°-110°	136.0	2.4
110°-120°	326.6	5.8
120°-130°	415.9	7.4
130°-140°	444.3	7.9
140°-150°	415.5	7.3
150°-160°	335.2	5.9
160°-170°	216.3	3.8
170°-180°	74.5	1.3
0°-30°	944.3	16.7
0°-40°	1519.8	26.9
0°-60°	2606.6	46.1
0°-90°	3265.0	57.7
90°-120°	491.1	8.7
90°-150°	1766.8	31.2
90°-180°	2393.0	42.3
0°-180°	5657.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1254	1254	1254	1254	1254	
5°	1255	1249	1238	1248	1246	119
15°	1195	1190	1176	1184	1178	337
25°	1085	1078	1064	1065	1062	499
35°	938	931	918	911	906	587
45°	769	764	750	738	732	593
55°	583	582	568	557	551	522
65°	398	392	382	373	370	392
75°	210	206	203	197	194	225
85°	56	54	54	52	52	62
90°	1	7	14	16	18	5
95°	36	13	18	22	22	44
105°	174	177	128	30	26	184
115°	326	329	335	340	343	322
125°	459	464	466	468	469	410
135°	572	575	578	579	578	440
145°	660	664	665	666	666	413
155°	727	726	726	729	726	335
165°	767	765	764	768	765	216
175°	785	782	782	786	782	75
180°	785	785	785	785	785	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9
2.5°	1258.2	1257.5	1256.7	1255.9	1255.2	1253.7	1251.6	1249.5	1247.4	1245.3	1247.2
5°	1255.0	1253.8	1252.6	1251.4	1250.2	1248.3	1245.7	1243.0	1240.4	1237.8	1240.2
7.5°	1242.7	1241.5	1240.3	1239.1	1237.9	1236.0	1233.3	1230.5	1227.8	1225.0	1227.2
10°	1232.4	1231.2	1229.9	1228.8	1227.6	1225.4	1222.3	1219.2	1216.1	1213.0	1215.1
12.5°	1218.5	1217.6	1216.6	1215.5	1214.6	1212.6	1209.7	1206.7	1203.8	1200.9	1202.5
15°	1194.6	1193.7	1192.7	1191.8	1190.8	1188.7	1185.7	1182.6	1179.4	1176.3	1178.2
17.5°	1166.8	1165.5	1164.3	1163.1	1161.8	1159.7	1156.5	1153.4	1150.3	1147.2	1148.5
20°	1146.1	1144.7	1143.3	1141.8	1140.3	1138.0	1135.0	1131.9	1128.8	1125.6	1126.6
22.5°	1122.8	1121.4	1120.0	1118.5	1117.1	1114.8	1111.7	1108.6	1105.5	1102.3	1103.1
25°	1084.7	1083.2	1081.8	1080.4	1078.9	1076.7	1073.5	1070.4	1067.3	1064.1	1064.4
27.5°	1043.9	1042.5	1041.1	1039.7	1038.3	1035.9	1032.6	1029.3	1025.9	1022.5	1022.7
30°	1014.5	1013.4	1012.2	1011.0	1009.8	1007.5	1004.2	1000.8	997.4	994.1	994.1
32.5°	985.2	983.7	982.1	980.5	978.9	976.8	974.2	971.7	969.1	966.5	965.1
35°	938.0	936.6	935.2	933.7	932.2	930.0	926.9	923.8	920.7	917.5	916.1
37.5°	889.7	887.9	886.1	884.2	882.4	880.0	876.8	873.6	870.4	867.3	865.5
40°	856.1	854.6	853.2	851.8	850.3	848.0	844.5	841.2	837.9	834.5	832.6
42.5°	822.4	820.8	819.2	817.5	815.9	813.4	810.1	806.8	803.4	800.0	798.1
45°	768.7	767.8	766.8	765.9	764.9	762.9	759.8	756.6	753.5	750.4	747.6
47.5°	715.5	714.1	712.7	711.3	710.0	707.7	704.9	702.0	699.0	696.1	693.2
50°	679.3	678.0	676.8	675.7	674.5	672.3	669.2	666.1	663.0	659.9	657.2
52.5°	641.3	640.5	639.7	638.9	638.0	636.0	632.7	629.4	626.1	622.7	620.5
55°	583.3	583.0	582.8	582.6	582.3	580.7	577.6	574.4	571.3	568.2	565.5
57.5°	528.1	527.3	526.5	525.7	524.8	523.2	520.7	518.2	515.7	513.3	510.9
60°	488.4	488.1	487.9	487.7	487.4	485.9	483.0	480.1	477.3	474.4	472.2
62.5°	453.0	452.4	451.8	451.1	450.6	448.9	445.9	443.1	440.2	437.3	435.1
65°	397.8	396.6	395.5	394.3	393.1	391.3	388.9	386.5	384.0	381.7	379.8
67.5°	339.5	338.3	337.3	336.3	335.2	333.7	331.9	330.1	328.3	326.5	324.8
70°	304.0	302.6	301.2	299.8	298.3	296.8	295.4	294.0	292.6	291.1	289.5
72.5°	267.0	265.9	264.8	263.8	262.8	261.4	259.8	258.2	256.5	254.8	253.4
75°	210.2	209.3	208.3	207.4	206.4	205.6	204.9	204.1	203.4	202.7	201.5
77.5°	160.0	159.5	158.9	158.4	157.9	157.2	156.4	155.5	154.6	153.8	153.0
80°	127.2	126.5	125.8	125.1	124.4	123.7	123.3	122.8	122.3	121.8	121.6
82.5°	95.3	95.1	95.1	94.9	94.7	94.6	94.5	94.4	94.3	94.3	93.8
85°	56.1	55.6	55.1	54.7	54.2	53.9	53.9	53.9	53.9	53.9	53.4
87.5°	22.6	22.3	21.9	21.6	21.3	21.2	21.3	21.5	21.6	21.8	21.7
90°	0.6	1.9	3.2	4.4	5.8	7.3	9.0	10.6	12.3	14.0	14.5
92.5°	10.9	10.5	10.1	9.7	9.4	9.8	11.1	12.4	13.6	14.9	15.8
95°	35.6	30.3	25.0	19.6	14.3	12.4	13.8	15.2	16.6	18.1	19.0
97.5°	71.5	69.1	66.7	64.3	61.9	56.1	46.7	37.4	28.1	18.8	19.8
100°	98.5	101.1	103.7	106.3	108.8	100.1	79.9	59.7	39.5	19.3	20.3
102.5°	129.3	131.2	133.0	134.9	136.7	126.7	104.6	82.5	60.4	38.3	35.2
105°	173.7	175.2	176.6	178.0	179.4	174.3	162.6	151.0	139.3	127.7	104.7
107.5°	220.5	221.7	222.8	224.0	225.1	226.6	228.5	230.3	232.2	234.0	217.1
110°	251.8	252.9	253.9	254.9	256.0	257.2	258.6	260.1	261.5	262.9	258.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	281.7	282.6	283.5	284.5	285.4	286.6	288.0	289.5	290.9	292.3	292.4
115°	325.8	326.6	327.4	328.2	329.0	329.9	331.1	332.2	333.4	334.6	335.9
117.5°	368.7	369.6	370.6	371.5	372.5	373.3	373.8	374.5	375.0	375.7	376.7
120°	395.2	396.4	397.6	398.7	399.9	400.7	401.1	401.5	401.9	402.2	403.3
122.5°	422.3	423.3	424.2	425.2	426.1	426.8	427.3	427.9	428.3	428.8	429.5
125°	459.4	460.4	461.4	462.5	463.5	464.3	464.8	465.3	465.8	466.4	466.6
127.5°	495.3	496.3	497.3	498.4	499.4	500.3	500.9	501.5	502.1	502.7	503.1
130°	517.6	518.7	519.8	520.8	521.8	522.6	523.1	523.6	524.1	524.7	525.1
132.5°	539.1	540.1	541.1	542.2	543.3	544.0	544.4	544.8	545.2	545.7	546.1
135°	571.9	572.7	573.4	574.2	575.0	575.6	576.2	576.6	577.2	577.7	578.1
137.5°	599.8	600.8	601.8	602.8	603.8	604.4	604.7	605.0	605.3	605.5	606.2
140°	618.5	619.2	620.0	620.8	621.6	622.2	622.6	623.0	623.4	623.8	624.2
142.5°	635.7	636.5	637.3	638.1	638.9	639.4	639.8	640.2	640.6	641.0	641.4
145°	659.9	660.8	661.7	662.6	663.5	664.1	664.3	664.6	664.9	665.1	665.4
147.5°	682.6	683.2	683.8	684.4	685.0	685.4	685.7	686.0	686.2	686.4	686.7
150°	696.6	697.0	697.4	697.8	698.2	698.5	698.8	699.0	699.3	699.5	699.8
152.5°	709.2	709.4	709.6	709.7	710.0	710.1	710.3	710.4	710.6	710.7	711.1
155°	726.9	726.7	726.4	726.1	725.9	725.8	726.0	726.1	726.2	726.4	727.0
157.5°	740.7	740.7	740.6	740.6	740.6	740.5	740.4	740.2	740.1	740.0	740.8
160°	749.1	748.9	748.8	748.7	748.5	748.5	748.3	748.1	748.1	747.9	748.7
162.5°	757.0	756.7	756.3	756.0	755.7	755.4	755.3	755.2	755.0	754.9	755.8
165°	766.6	766.2	765.8	765.4	765.0	764.8	764.6	764.5	764.4	764.2	765.2
167.5°	774.0	773.5	773.0	772.5	772.0	771.7	771.7	771.7	771.7	771.7	772.7
170°	778.2	777.7	777.2	776.7	776.2	775.9	775.9	775.9	775.9	775.9	776.9
172.5°	781.0	780.4	779.7	779.2	778.6	778.2	778.4	778.5	778.6	778.7	779.7
175°	784.7	783.9	783.3	782.7	782.0	781.8	781.9	782.0	782.2	782.3	783.2
177.5°	785.5	785.1	784.5	784.0	783.5	783.3	783.4	783.5	783.6	783.7	784.5
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9	1253.9
2.5°	1249.1	1251.1	1253.0	1253.9	1253.6	1253.5	1253.2	1253.1
5°	1242.5	1244.9	1247.4	1248.3	1247.8	1247.4	1246.9	1246.4
7.5°	1229.4	1231.5	1233.7	1234.6	1234.3	1234.1	1233.7	1233.4
10°	1217.3	1219.4	1221.6	1222.4	1221.9	1221.5	1221.0	1220.5
12.5°	1204.0	1205.6	1207.2	1207.8	1207.6	1207.3	1207.0	1206.7
15°	1180.1	1182.0	1184.0	1184.2	1182.8	1181.3	1179.9	1178.5
17.5°	1149.9	1151.2	1152.5	1152.9	1152.5	1151.9	1151.4	1150.9
20°	1127.5	1128.5	1129.5	1129.6	1128.9	1128.1	1127.4	1126.7
22.5°	1103.9	1104.6	1105.4	1105.3	1104.5	1103.5	1102.6	1101.7
25°	1064.6	1064.9	1065.2	1064.9	1064.1	1063.4	1062.7	1062.0
27.5°	1022.9	1023.1	1023.3	1022.9	1022.1	1021.1	1020.3	1019.3
30°	994.1	994.1	994.1	993.2	991.6	989.9	988.2	986.5
32.5°	963.8	962.5	961.2	960.0	959.1	958.1	957.3	956.3
35°	914.7	913.2	911.8	910.5	909.3	908.1	906.9	905.7
37.5°	863.9	862.1	860.4	859.1	858.4	857.6	856.8	856.1
40°	830.7	828.8	826.9	825.4	824.4	823.5	822.5	821.6
42.5°	796.1	794.2	792.3	790.9	790.0	789.0	788.1	787.1
45°	744.7	741.8	738.9	736.9	735.7	734.5	733.3	732.1
47.5°	690.4	687.6	684.8	682.9	681.8	680.7	679.7	678.6
50°	654.6	652.0	649.3	647.3	645.9	644.4	642.9	641.5
52.5°	618.2	616.0	613.8	611.9	610.5	609.0	607.6	606.2
55°	562.9	560.3	557.7	555.7	554.5	553.3	552.2	551.0
57.5°	508.5	506.2	503.8	501.9	500.6	499.2	497.8	496.4
60°	470.1	467.9	465.8	464.1	462.9	461.7	460.5	459.3
62.5°	433.0	430.9	428.6	427.2	426.4	425.6	424.8	424.0
65°	377.9	375.9	374.0	372.7	372.0	371.3	370.5	369.8
67.5°	323.1	321.5	319.8	318.5	317.4	316.4	315.4	314.4
70°	287.7	286.1	284.4	283.0	281.8	280.6	279.4	278.1
72.5°	251.9	250.4	248.9	247.9	247.2	246.6	246.1	245.4
75°	200.3	199.1	197.9	196.9	196.2	195.5	194.8	194.1
77.5°	152.1	151.3	150.5	150.1	150.1	150.1	150.1	150.1
80°	121.4	121.1	120.9	120.7	120.7	120.7	120.7	120.7
82.5°	93.4	92.9	92.5	92.2	92.0	91.8	91.7	91.4
85°	52.9	52.4	52.0	51.7	51.7	51.7	51.7	51.7
87.5°	21.6	21.5	21.4	21.4	21.5	21.5	21.5	21.6
90°	15.1	15.5	16.1	16.5	16.7	17.0	17.2	17.5
92.5°	16.6	17.4	18.2	18.7	18.9	19.0	19.2	19.3
95°	19.9	20.8	21.7	22.2	22.2	22.2	22.2	22.2
97.5°	20.8	21.9	22.9	23.5	23.6	23.8	23.9	24.0
100°	21.3	22.3	23.4	24.0	24.1	24.2	24.3	24.5
102.5°	31.9	28.8	25.5	24.0	24.2	24.5	24.7	25.0
105°	81.8	58.9	36.0	24.6	24.9	25.1	25.4	25.7
107.5°	200.3	183.5	166.8	149.7	132.4	115.1	97.8	80.6
110°	254.4	250.1	245.8	234.4	215.9	197.3	178.8	160.3





TEST NUMBER: P332190-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	292.5	292.6	292.6	290.7	286.8	282.9	278.9	275.0
115°	337.2	338.5	339.8	340.7	341.2	341.7	342.2	342.8
117.5°	377.7	378.7	379.8	380.3	380.5	380.6	380.6	380.8
120°	404.3	405.4	406.4	406.9	406.9	406.9	406.9	406.9
122.5°	430.2	430.9	431.7	432.1	432.2	432.3	432.5	432.5
125°	466.8	467.1	467.4	467.6	467.9	468.2	468.4	468.7
127.5°	503.6	504.0	504.4	504.5	504.2	503.9	503.7	503.4
130°	525.7	526.2	526.7	526.9	526.6	526.3	526.1	525.8
132.5°	546.7	547.2	547.7	547.8	547.4	547.1	546.7	546.3
135°	578.5	578.8	579.2	579.2	578.8	578.5	578.1	577.7
137.5°	606.8	607.4	608.1	608.2	608.0	607.7	607.4	607.2
140°	624.8	625.3	625.8	626.0	625.7	625.4	625.2	624.9
142.5°	641.8	642.2	642.6	642.7	642.3	642.0	641.6	641.2
145°	665.7	665.9	666.1	666.3	666.3	666.3	666.3	666.3
147.5°	687.0	687.2	687.5	687.3	686.7	686.1	685.6	684.9
150°	700.1	700.3	700.5	700.5	700.1	699.7	699.3	698.9
152.5°	711.6	712.1	712.6	712.5	711.9	711.3	710.7	710.1
155°	727.6	728.3	729.0	728.9	728.1	727.3	726.5	725.7
157.5°	741.6	742.3	743.1	743.0	742.0	740.9	740.0	738.9
160°	749.5	750.3	751.0	751.0	750.0	749.2	748.2	747.3
162.5°	756.7	757.6	758.4	758.4	757.6	756.9	756.1	755.3
165°	766.3	767.3	768.3	768.4	767.5	766.6	765.7	764.8
167.5°	773.7	774.8	775.9	775.9	774.8	773.7	772.7	771.7
170°	777.9	779.0	780.1	780.1	779.0	777.9	776.9	775.9
172.5°	780.8	781.8	782.8	782.8	781.6	780.5	779.3	778.2
175°	784.1	785.1	785.9	785.8	784.8	783.8	782.8	781.7
177.5°	785.4	786.2	787.0	786.9	785.8	784.8	783.8	782.8
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7

(END OF REPORT)