

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: P332195-927

Luminaire Tested: **S123DIW-S1000D1030U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332195-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S1000D1030U927-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6159.8 lumens  
Efficiency: N/A  
Efficacy: 100.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

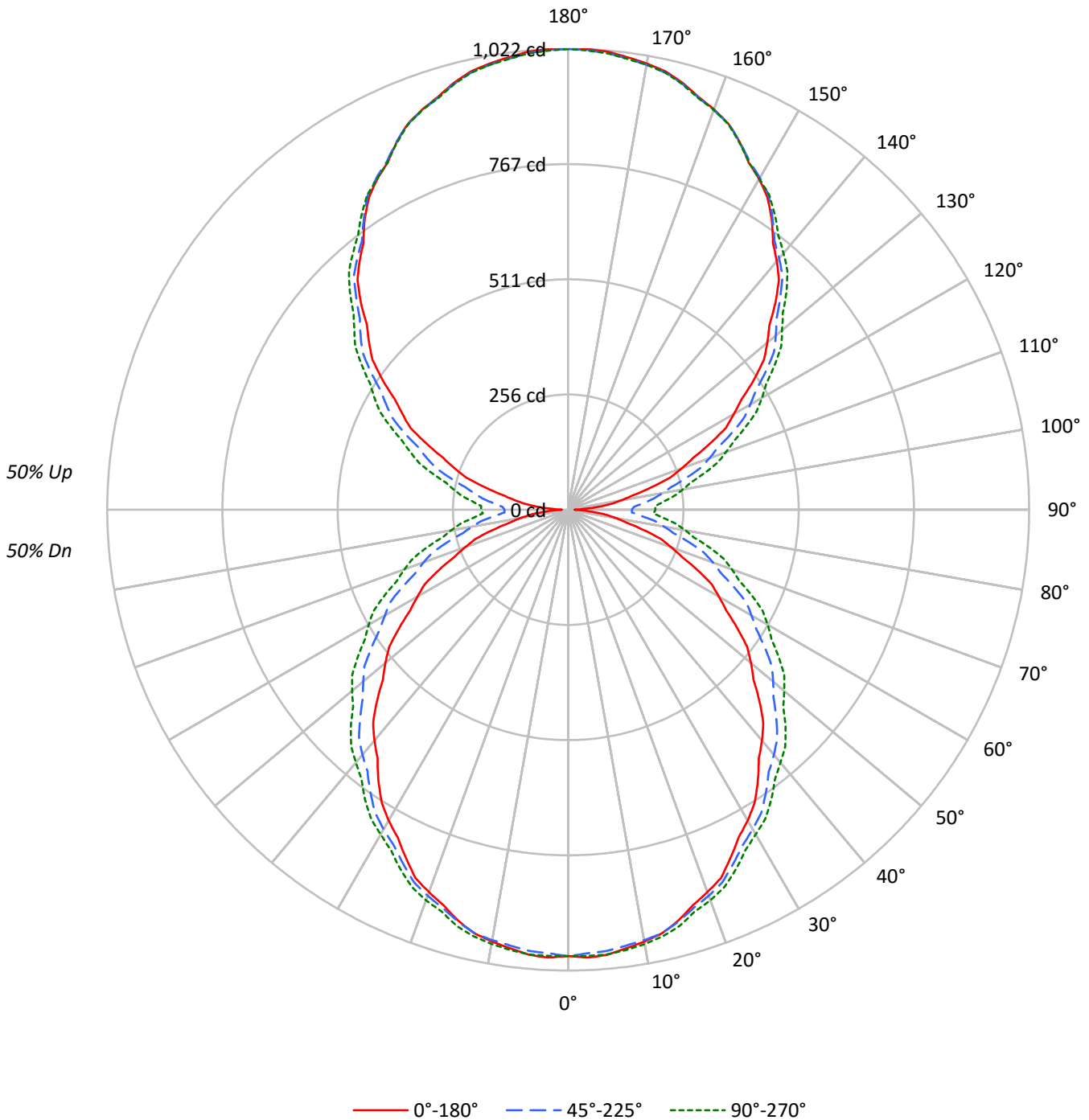
Input Watts (W): 61.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

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

	0°	45°	90°
0°	10654	10654	10654
5°	10687	10385	10392
10°	10592	10146	10095
15°	10455	9874	9773
20°	10260	9565	9418
25°	10019	9208	9043
30°	9772	8886	8665
35°	9496	8547	8362
40°	9231	8238	8039
45°	8938	7941	7779
50°	8650	7648	7494
55°	8332	7348	7238
60°	8020	7044	6974
65°	7702	6718	6661
70°	7222	6352	6341
75°	6614	5933	6016
80°	5915	5522	5642
85°	5267	5241	5428



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.8	1.5
10°-20°	267.5	4.3
20°-30°	400.0	6.5
30°-40°	477.7	7.8
40°-50°	499.9	8.1
50°-60°	469.1	7.6
60°-70°	391.8	6.4
70°-80°	280.3	4.6
80°-90°	170.2	2.8
90°-100°	171.4	2.8
100°-110°	276.3	4.5
110°-120°	390.3	6.3
120°-130°	475.1	7.7
130°-140°	514.1	8.3
140°-150°	495.2	8.0
150°-160°	414.6	6.7
160°-170°	275.9	4.5
170°-180°	96.6	1.6
0°-30°	761.3	12.4
0°-40°	1239.1	20.1
0°-60°	2208.0	35.8
0°-90°	3050.2	49.5
90°-120°	838.0	13.6
90°-150°	2322.5	37.7
90°-180°	3110.0	50.5
0°-180°	6159.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	990	990	990	990	990	
5°	991	988	982	990	990	94
15°	943	946	946	956	955	266
25°	852	862	866	879	880	392
35°	733	750	764	780	785	458
45°	599	625	652	672	681	462
55°	457	493	532	560	569	409
65°	316	358	405	436	448	312
75°	171	222	276	310	325	183
85°	53	107	164	199	211	55
90°	15	76	141	179	193	12
95°	59	108	166	201	214	62
105°	189	218	270	299	312	202
115°	346	363	399	425	434	343
125°	502	506	534	553	558	448
135°	650	654	665	680	685	501
145°	787	787	790	797	799	491
155°	900	900	900	903	898	414
165°	980	978	978	982	977	276
175°	1019	1016	1016	1020	1015	97
180°	1022	1022	1022	1022	1022	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8
2.5°	994.1	993.6	992.9	992.4	991.8	990.7	989.2	987.7	986.1	984.6	986.1
5°	990.9	990.4	989.9	989.4	989.0	988.0	986.6	985.1	983.7	982.2	984.1
7.5°	981.1	981.3	981.4	981.4	981.5	980.9	979.5	978.1	976.7	975.3	977.7
10°	972.6	973.0	973.5	974.0	974.5	974.1	972.9	971.7	970.5	969.3	971.7
12.5°	962.2	962.8	963.5	964.2	964.9	964.8	964.0	963.1	962.3	961.6	963.8
15°	943.4	944.1	944.8	945.5	946.3	946.5	946.3	946.0	945.8	945.5	948.0
17.5°	919.7	921.1	922.6	924.0	925.4	926.1	926.1	925.9	925.8	925.7	927.9
20°	902.5	903.9	905.3	906.7	908.2	909.2	909.7	910.1	910.6	911.1	913.2
22.5°	884.3	885.7	887.2	888.7	890.1	891.1	891.8	892.5	893.2	893.8	896.5
25°	851.8	854.1	856.6	859.0	861.3	862.9	863.6	864.4	865.1	865.8	868.9
27.5°	819.0	821.7	824.4	827.2	829.9	832.0	833.6	835.1	836.6	838.2	840.9
30°	795.7	798.8	801.9	805.0	808.2	810.6	812.6	814.5	816.4	818.3	821.3
32.5°	769.8	773.3	776.8	780.3	783.8	786.8	789.3	791.8	794.3	796.8	799.9
35°	733.2	737.0	740.8	744.7	748.5	751.9	755.1	758.2	761.3	764.5	768.0
37.5°	694.3	698.7	703.0	707.3	711.6	715.7	719.5	723.3	727.1	731.0	735.1
40°	668.4	672.8	677.1	681.4	685.7	690.3	695.1	699.9	704.6	709.5	713.5
42.5°	640.0	645.3	650.5	655.8	661.1	666.2	671.2	676.2	681.2	686.2	690.6
45°	599.4	605.2	611.0	616.7	622.5	628.4	634.3	640.3	646.3	652.3	656.9
47.5°	557.0	563.5	570.1	576.6	583.0	589.8	596.6	603.5	610.3	617.2	622.3
50°	529.4	536.1	542.8	549.5	556.2	563.3	570.7	578.1	585.6	593.0	598.5
52.5°	500.0	507.2	514.3	521.3	528.5	536.1	544.3	552.5	560.6	568.9	574.6
55°	457.2	465.1	472.9	480.9	488.8	497.0	505.6	514.3	522.9	531.6	538.1
57.5°	415.3	423.6	431.8	440.1	448.3	457.2	466.6	476.0	485.4	494.9	501.4
60°	386.0	394.6	403.2	411.9	420.5	429.7	439.5	449.4	459.2	469.1	475.7
62.5°	358.4	367.2	376.0	384.8	393.6	403.3	413.7	424.1	434.4	444.9	451.5
65°	315.9	325.3	334.6	344.0	353.3	363.2	373.8	384.3	394.8	405.4	412.6
67.5°	272.7	282.7	292.6	302.5	312.4	322.8	333.5	344.3	355.0	365.8	373.6
70°	242.6	252.9	263.2	273.5	283.8	294.7	306.2	317.7	329.2	340.7	348.4
72.5°	215.0	225.3	235.6	245.9	256.2	267.3	279.2	291.0	302.9	314.8	322.7
75°	171.4	182.7	193.9	205.3	216.5	228.1	240.1	252.1	264.0	276.0	283.9
77.5°	133.5	144.8	156.2	167.5	178.9	190.6	202.7	214.8	226.9	238.9	247.2
80°	106.7	118.5	130.2	142.0	153.7	165.8	178.2	190.8	203.2	215.6	223.8
82.5°	83.4	95.4	107.3	119.2	131.2	143.5	156.1	168.7	181.4	194.1	202.2
85°	52.8	64.8	76.8	88.8	100.8	113.1	125.8	138.5	151.1	163.9	172.1
87.5°	28.8	41.1	53.4	65.7	78.0	90.5	103.1	115.8	128.5	141.2	149.5
90°	14.8	28.4	41.8	55.4	68.9	82.9	97.5	112.0	126.6	141.1	150.0
92.5°	32.6	44.4	56.2	68.0	79.8	92.4	105.7	119.1	132.4	145.8	154.3
95°	59.2	69.8	80.4	91.0	101.6	113.4	126.6	139.8	153.0	166.1	174.3
97.5°	94.7	104.0	113.4	122.8	132.1	142.9	155.2	167.4	179.7	191.9	199.9
100°	118.8	127.6	136.3	145.0	153.8	164.1	176.0	188.0	199.9	211.8	219.3
102.5°	146.9	154.4	162.0	169.5	177.1	186.8	198.8	210.9	222.8	234.9	242.2
105°	189.2	195.3	201.5	207.6	213.7	222.6	234.6	246.4	258.3	270.3	276.9
107.5°	237.3	242.5	247.6	252.6	257.8	265.5	275.9	286.4	296.8	307.2	314.2
110°	267.3	272.0	276.6	281.3	286.0	293.3	303.2	313.1	323.1	333.0	340.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.4	303.2	306.9	310.7	314.4	321.0	330.3	339.5	348.8	358.1	365.0
115°	346.5	349.9	353.3	356.7	360.1	366.0	374.2	382.5	390.8	399.0	405.0
117.5°	394.7	396.9	399.0	401.2	403.3	408.1	415.8	423.4	431.0	438.7	444.3
120°	424.1	426.4	428.6	430.9	433.2	437.8	444.8	451.8	458.8	465.8	471.2
122.5°	455.5	456.9	458.4	459.7	461.1	465.4	472.5	479.5	486.6	493.6	498.4
125°	502.4	503.0	503.5	504.1	504.5	508.1	514.8	521.3	527.9	534.5	538.8
127.5°	546.8	547.6	548.5	549.5	550.3	553.5	558.8	564.2	569.6	574.9	578.7
130°	576.2	577.4	578.6	579.8	581.0	583.8	588.0	592.2	596.5	600.8	604.6
132.5°	604.9	606.3	607.7	609.1	610.5	612.8	616.3	619.7	623.2	626.6	630.1
135°	649.8	650.7	651.5	652.4	653.2	654.8	657.3	659.7	662.2	664.6	668.2
137.5°	691.3	692.1	692.8	693.5	694.2	695.5	697.4	699.3	701.3	703.3	706.3
140°	719.4	720.3	721.2	722.1	722.9	723.8	724.8	725.6	726.5	727.5	730.9
142.5°	745.7	746.4	747.1	747.8	748.5	749.1	749.6	750.0	750.5	750.9	754.0
145°	786.8	786.9	787.0	787.1	787.3	787.6	788.1	788.7	789.2	789.7	791.5
147.5°	821.7	822.3	822.9	823.6	824.3	824.8	825.3	825.9	826.3	826.8	827.4
150°	846.7	847.1	847.4	847.8	848.1	848.5	848.8	849.2	849.5	849.9	849.9
152.5°	867.3	867.8	868.2	868.8	869.3	869.6	869.8	870.1	870.3	870.4	870.8
155°	899.7	899.7	899.7	899.7	899.7	899.8	899.9	900.2	900.3	900.5	901.2
157.5°	927.3	927.1	926.9	926.6	926.5	926.4	926.5	926.7	926.9	926.9	927.7
160°	944.6	944.3	943.9	943.6	943.2	943.0	943.0	943.0	943.0	943.0	943.9
162.5°	960.0	959.6	959.0	958.5	958.1	957.8	958.0	958.1	958.3	958.5	959.3
165°	979.9	979.4	978.9	978.3	977.8	977.6	977.6	977.6	977.6	977.6	978.6
167.5°	995.9	995.1	994.4	993.7	993.0	992.7	992.8	993.0	993.2	993.2	994.3
170°	1004.8	1004.1	1003.4	1002.7	1002.0	1001.6	1001.6	1001.6	1001.6	1001.6	1002.8
172.5°	1011.9	1011.1	1010.4	1009.7	1009.0	1008.7	1008.7	1008.7	1008.7	1008.7	1009.8
175°	1019.3	1018.6	1017.9	1017.2	1016.4	1016.1	1016.1	1016.1	1016.1	1016.1	1017.2
177.5°	1022.3	1021.8	1021.2	1020.6	1020.0	1019.8	1019.8	1019.8	1019.8	1019.8	1020.6
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	989.8	989.8	989.8	989.8	989.8	989.8	989.8	989.8
2.5°	987.7	989.2	990.7	991.4	991.2	991.0	990.9	990.6
5°	986.0	988.0	989.9	990.7	990.5	990.2	990.0	989.8
7.5°	980.1	982.5	984.9	986.0	985.7	985.4	985.1	984.8
10°	974.1	976.4	978.9	979.9	979.4	978.9	978.4	977.9
12.5°	965.9	968.1	970.3	971.2	970.7	970.3	969.8	969.3
15°	950.4	952.8	955.1	956.2	956.0	955.8	955.5	955.3
17.5°	930.0	932.2	934.4	935.3	934.9	934.6	934.3	933.9
20°	915.4	917.5	919.7	920.9	921.1	921.4	921.6	921.9
22.5°	899.3	902.0	904.8	906.0	905.9	905.8	905.6	905.5
25°	872.0	875.1	878.2	879.8	879.8	879.8	879.8	879.8
27.5°	843.5	846.2	848.9	850.3	850.6	850.7	851.0	851.1
30°	824.1	827.0	829.8	831.3	831.3	831.3	831.3	831.3
32.5°	803.0	806.0	809.1	810.9	811.4	812.0	812.6	813.2
35°	771.6	775.2	778.8	781.1	782.0	783.0	783.9	784.9
37.5°	739.2	743.2	747.3	749.7	750.5	751.2	752.0	752.8
40°	717.6	721.7	725.7	728.3	729.2	730.2	731.1	732.1
42.5°	695.1	699.5	704.0	706.9	708.2	709.6	710.9	712.3
45°	661.4	666.0	670.5	673.8	675.7	677.6	679.5	681.4
47.5°	627.4	632.6	637.6	641.0	642.5	644.0	645.4	646.9
50°	604.0	609.5	615.1	618.6	620.4	622.0	623.7	625.3
52.5°	580.3	586.0	591.7	595.6	597.6	599.7	601.7	603.8
55°	544.5	551.0	557.5	561.6	563.6	565.5	567.4	569.3
57.5°	507.9	514.4	520.9	525.4	527.6	529.8	532.1	534.3
60°	482.4	489.2	495.8	500.5	503.2	505.8	508.4	511.0
62.5°	458.3	465.0	471.7	476.3	478.7	481.2	483.6	486.1
65°	419.8	427.0	434.1	438.9	441.3	443.7	446.2	448.5
67.5°	381.4	389.3	397.1	402.1	404.1	406.2	408.1	410.1
70°	356.0	363.7	371.4	376.4	378.8	381.2	383.6	386.0
72.5°	330.6	338.4	346.3	351.4	353.8	356.2	358.6	361.0
75°	291.8	299.8	307.6	313.1	315.9	318.8	321.6	324.6
77.5°	255.6	264.0	272.3	277.6	279.7	281.9	284.2	286.4
80°	232.0	240.1	248.2	253.5	255.9	258.3	260.7	263.1
82.5°	210.4	218.5	226.6	232.0	234.3	236.7	239.1	241.5
85°	180.1	188.3	196.5	201.8	204.1	206.5	208.9	211.4
87.5°	157.8	166.0	174.4	179.7	182.2	184.7	187.1	189.6
90°	158.8	167.7	176.5	182.4	185.1	187.8	190.6	193.4
92.5°	162.8	171.3	179.8	185.1	187.1	189.1	191.1	193.1
95°	182.4	190.5	198.7	204.0	206.4	208.7	211.1	213.6
97.5°	207.9	215.8	223.8	228.9	231.2	233.5	235.9	238.2
100°	226.7	234.2	241.7	246.8	249.6	252.3	255.1	257.9
102.5°	249.5	256.7	264.0	268.9	271.2	273.5	275.8	278.1
105°	283.7	290.4	297.1	301.7	304.2	306.7	309.3	311.8
107.5°	321.2	328.2	335.2	339.6	341.5	343.4	345.3	347.2
110°	346.9	353.9	360.8	365.0	366.6	368.2	369.8	371.3





TEST NUMBER: P332195-927

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	371.9	378.7	385.6	390.1	392.1	394.2	396.2	398.2
115°	410.9	416.8	422.8	426.6	428.3	430.1	431.8	433.6
117.5°	450.0	455.7	461.4	464.9	466.2	467.6	469.0	470.3
120°	476.5	481.8	487.2	490.5	491.8	493.1	494.5	495.7
122.5°	503.4	508.2	513.0	516.0	517.2	518.4	519.6	520.8
125°	543.1	547.5	551.8	554.4	555.4	556.3	557.3	558.3
127.5°	582.4	586.1	589.9	592.2	592.9	593.8	594.6	595.4
130°	608.5	612.3	616.2	618.1	618.3	618.5	618.7	618.9
132.5°	633.7	637.2	640.6	642.7	643.4	644.0	644.8	645.4
135°	671.8	675.4	679.1	681.3	682.1	682.9	683.7	684.6
137.5°	709.3	712.4	715.4	717.2	717.7	718.3	718.7	719.3
140°	734.3	737.7	741.1	742.8	742.8	742.7	742.6	742.6
142.5°	757.0	760.0	763.1	764.7	764.9	765.2	765.4	765.6
145°	793.2	795.0	796.7	797.6	797.9	798.2	798.4	798.7
147.5°	828.0	828.5	829.1	829.3	829.1	828.9	828.7	828.5
150°	849.9	849.9	849.9	849.6	849.1	848.4	847.9	847.2
152.5°	871.0	871.3	871.6	871.3	870.5	869.7	868.9	868.0
155°	901.9	902.6	903.3	903.1	901.8	900.6	899.4	898.1
157.5°	928.4	929.2	929.9	929.9	928.8	927.9	926.9	925.8
160°	944.8	945.7	946.6	946.7	945.9	945.2	944.5	943.8
162.5°	960.2	961.1	962.0	961.9	960.8	959.6	958.5	957.3
165°	979.7	980.7	981.8	981.8	980.5	979.2	977.9	976.8
167.5°	995.5	996.6	997.7	997.7	996.6	995.5	994.3	993.2
170°	1004.1	1005.4	1006.6	1006.6	1005.4	1004.1	1002.8	1001.6
172.5°	1010.9	1012.0	1013.1	1013.0	1011.8	1010.5	1009.2	1008.1
175°	1018.2	1019.3	1020.3	1020.3	1019.0	1017.7	1016.5	1015.3
177.5°	1021.4	1022.3	1023.2	1023.1	1022.1	1021.1	1020.1	1019.1
180°	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7	1021.7

(END OF REPORT)