

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: P331986-935

Luminaire Tested: **S123DIP-S775D1025U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331986-935  
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: S123DIP-S775D1025U935-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5815.7 lumens  
Efficiency: N/A  
Efficacy: 111.8 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

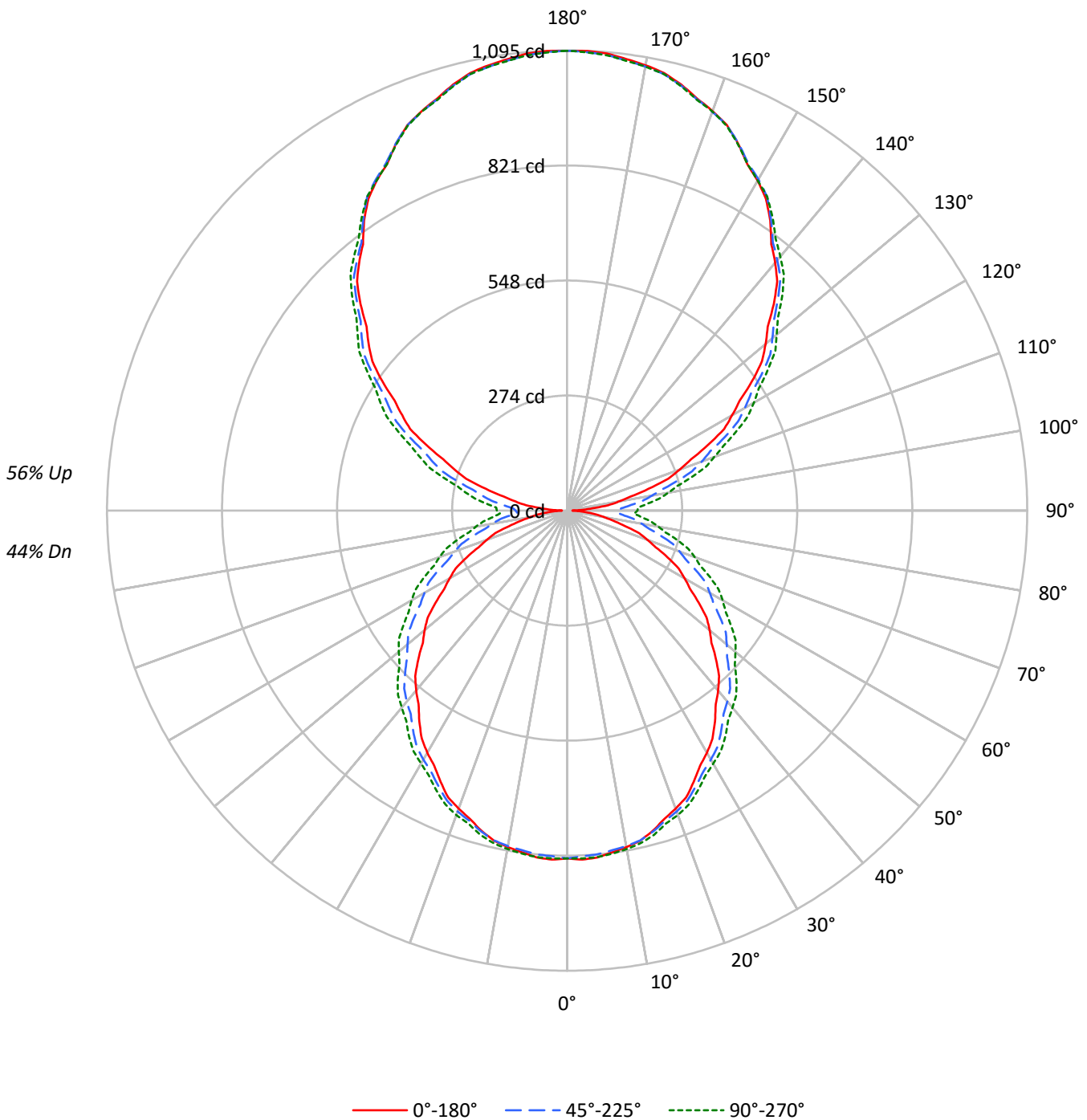
Input Watts (W): 52  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	50	50	50	44
1	95	91	87	83	87	83	79	76	69	66	64	55	54	52	43	42	41	35
2	87	79	72	67	79	72	66	62	60	55	52	48	45	43	37	35	34	29
3	79	69	61	55	72	63	56	51	52	47	43	42	39	36	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	37	37	33	30	29	26	24	20
5	66	54	46	40	60	50	42	37	41	36	31	33	29	26	26	23	21	17
6	61	48	40	34	55	44	37	32	37	31	27	30	26	23	24	21	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	22	18	16	13
8	52	39	32	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	26	21	41	30	24	19	26	20	17	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	8908	8908	8908
5°	8936	8684	8689
10°	8856	8484	8441
15°	8741	8257	8171
20°	8579	7997	7875
25°	8377	7698	7561
30°	8171	7430	7245
35°	7939	7146	6992
40°	7720	6888	6722
45°	7475	6640	6505
50°	7232	6394	6267
55°	6967	6143	6052
60°	6707	5889	5832
65°	6441	5617	5571
70°	6040	5312	5303
75°	5534	4961	5030
80°	4951	4618	4718
85°	4409	4384	4537



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	1.3
10°-20°	223.7	3.8
20°-30°	334.5	5.8
30°-40°	399.5	6.9
40°-50°	418.0	7.2
50°-60°	392.2	6.7
60°-70°	327.6	5.6
70°-80°	234.4	4.0
80°-90°	143.0	2.5
90°-100°	159.0	2.7
100°-110°	277.8	4.8
110°-120°	405.9	7.0
120°-130°	501.9	8.6
130°-140°	547.5	9.4
140°-150°	529.7	9.1
150°-160°	443.9	7.6
160°-170°	295.5	5.1
170°-180°	103.5	1.8
0°-30°	636.6	10.9
0°-40°	1036.1	17.8
0°-60°	1846.2	31.7
0°-90°	2551.2	43.9
90°-120°	842.6	14.5
90°-150°	2421.6	41.6
90°-180°	3265.0	56.1
0°-180°	5815.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	828	826	821	828	828	79
15°	789	791	791	799	799	222
25°	712	721	724	735	736	328
35°	613	627	639	652	656	383
45°	501	523	545	562	570	386
55°	382	412	444	468	476	342
65°	264	300	339	365	375	261
75°	143	186	231	260	271	153
85°	44	89	137	166	177	46
90°	13	66	122	155	167	11
95°	61	102	153	183	193	65
105°	201	225	270	295	306	214
115°	370	384	414	436	443	366
125°	537	541	564	579	583	479
135°	695	700	709	721	724	536
145°	842	843	846	852	852	526
155°	964	964	964	967	962	443
165°	1049	1047	1047	1051	1046	296
175°	1092	1088	1088	1093	1087	104
180°	1094	1094	1094	1094	1094	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	831.2	830.7	830.3	829.7	829.3	828.4	827.2	825.9	824.6	823.3	824.6
5°	828.5	828.1	827.7	827.3	826.9	826.1	824.9	823.7	822.5	821.3	822.9
7.5°	820.4	820.4	820.5	820.6	820.7	820.2	819.0	817.9	816.7	815.5	817.5
10°	813.2	813.6	814.0	814.4	814.8	814.5	813.5	812.5	811.5	810.5	812.5
12.5°	804.5	805.1	805.6	806.2	806.8	806.8	806.1	805.4	804.7	804.0	805.8
15°	788.8	789.5	790.1	790.7	791.3	791.4	791.3	791.1	790.8	790.7	792.6
17.5°	769.0	770.3	771.5	772.6	773.8	774.4	774.3	774.2	774.1	774.0	775.8
20°	754.6	755.8	757.0	758.2	759.4	760.2	760.6	761.0	761.4	761.8	763.6
22.5°	739.4	740.6	741.8	743.0	744.2	745.1	745.7	746.2	746.8	747.3	749.7
25°	712.2	714.2	716.2	718.2	720.2	721.5	722.1	722.7	723.3	723.9	726.5
27.5°	684.8	687.1	689.4	691.6	694.0	695.7	697.0	698.3	699.6	700.9	703.1
30°	665.3	668.0	670.5	673.1	675.7	677.9	679.4	681.1	682.7	684.2	686.6
32.5°	643.7	646.6	649.5	652.5	655.4	657.9	660.0	662.1	664.2	666.2	668.8
35°	613.0	616.2	619.5	622.7	625.9	628.8	631.4	634.0	636.6	639.2	642.2
37.5°	580.6	584.2	587.8	591.4	595.0	598.4	601.7	604.9	608.0	611.2	614.7
40°	559.0	562.6	566.2	569.8	573.3	577.2	581.2	585.2	589.2	593.2	596.6
42.5°	535.1	539.6	544.0	548.4	552.8	557.1	561.2	565.4	569.6	573.8	577.5
45°	501.3	506.1	510.8	515.7	520.5	525.4	530.4	535.4	540.4	545.4	549.2
47.5°	465.7	471.2	476.6	482.1	487.5	493.1	498.9	504.5	510.3	516.0	520.3
50°	442.6	448.2	453.8	459.5	465.1	471.0	477.3	483.5	489.7	495.8	500.4
52.5°	418.1	424.0	430.0	435.9	441.9	448.2	455.1	461.9	468.8	475.6	480.4
55°	382.3	388.8	395.5	402.1	408.7	415.6	422.8	430.1	437.2	444.4	449.9
57.5°	347.2	354.1	361.0	367.9	374.9	382.2	390.1	398.0	405.9	413.8	419.2
60°	322.8	329.9	337.2	344.4	351.6	359.3	367.6	375.7	383.9	392.2	397.8
62.5°	299.6	307.0	314.4	321.8	329.2	337.2	345.9	354.6	363.3	372.0	377.5
65°	264.2	272.0	279.7	287.6	295.4	303.7	312.5	321.3	330.2	339.0	345.0
67.5°	228.1	236.3	244.7	253.0	261.2	269.9	278.9	287.8	296.8	305.8	312.4
70°	202.9	211.5	220.1	228.7	237.3	246.4	256.1	265.6	275.3	284.9	291.3
72.5°	179.8	188.4	197.0	205.6	214.2	223.5	233.4	243.4	253.3	263.2	269.8
75°	143.4	152.7	162.2	171.6	181.0	190.7	200.7	210.8	220.8	230.8	237.4
77.5°	111.6	121.1	130.6	140.1	149.6	159.4	169.5	179.6	189.7	199.8	206.7
80°	89.3	99.1	108.9	118.7	128.5	138.6	149.0	159.5	169.9	180.3	187.1
82.5°	69.7	79.7	89.7	99.7	109.7	119.9	130.5	141.1	151.7	162.3	169.1
85°	44.2	54.2	64.2	74.2	84.2	94.5	105.2	115.8	126.4	137.1	143.9
87.5°	24.2	34.5	44.9	55.2	65.6	76.1	86.9	97.6	108.2	119.0	126.0
90°	12.6	24.3	36.0	47.8	59.5	71.7	84.4	97.1	109.8	122.5	130.1
92.5°	31.8	41.9	52.1	62.3	72.4	83.3	94.7	106.2	117.6	129.1	136.4
95°	60.6	69.7	79.0	88.1	97.2	107.5	118.8	130.2	141.5	152.8	159.8
97.5°	98.9	106.9	115.0	123.0	131.0	140.3	150.8	161.4	171.8	182.3	189.2
100°	125.0	132.6	140.1	147.7	155.2	164.1	174.3	184.4	194.6	204.7	211.1
102.5°	155.2	161.7	168.2	174.6	181.1	189.4	199.8	210.1	220.4	230.7	236.9
105°	200.6	205.8	210.9	216.2	221.4	229.1	239.4	249.8	260.1	270.4	276.0
107.5°	252.4	256.8	261.1	265.4	269.8	276.3	285.2	294.0	302.9	311.8	317.7
110°	284.7	288.7	292.7	296.7	300.7	306.9	315.3	323.6	332.1	340.4	346.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	319.1	322.3	325.5	328.7	331.9	337.3	345.2	352.9	360.7	368.4	374.4
115°	369.8	372.7	375.7	378.7	381.7	386.6	393.4	400.3	407.1	413.9	418.9
117.5°	421.5	423.4	425.2	427.1	429.0	433.0	439.3	445.6	451.9	458.1	462.9
120°	453.1	455.2	457.4	459.5	461.7	465.6	471.2	476.9	482.6	488.2	492.7
122.5°	486.8	488.2	489.5	490.9	492.2	495.8	501.6	507.4	513.2	519.0	523.0
125°	537.3	537.9	538.5	539.0	539.6	542.6	548.0	553.5	558.9	564.3	567.7
127.5°	584.7	585.7	586.8	587.8	588.8	591.5	595.9	600.3	604.7	609.1	612.0
130°	616.4	617.7	619.0	620.4	621.6	624.1	627.5	630.9	634.4	637.7	640.8
132.5°	647.3	648.8	650.2	651.7	653.2	655.4	658.1	660.9	663.7	666.5	669.3
135°	695.3	696.3	697.2	698.2	699.1	700.7	702.7	704.6	706.7	708.7	711.5
137.5°	739.9	740.7	741.5	742.3	743.0	744.3	746.1	747.8	749.6	751.3	753.6
140°	770.1	771.1	772.1	773.0	774.0	774.8	775.6	776.4	777.2	778.0	780.8
142.5°	798.3	799.1	799.9	800.7	801.5	802.1	802.5	803.1	803.5	804.0	806.5
145°	842.3	842.5	842.7	842.8	843.0	843.4	844.0	844.6	845.2	845.7	847.1
147.5°	879.9	880.6	881.3	882.0	882.7	883.3	883.8	884.3	884.8	885.5	885.9
150°	906.7	907.1	907.5	907.8	908.3	908.6	909.0	909.4	909.8	910.2	910.2
152.5°	928.8	929.3	929.8	930.3	930.8	931.3	931.5	931.7	931.9	932.2	932.5
155°	963.5	963.5	963.5	963.5	963.5	963.5	963.7	963.9	964.1	964.3	965.1
157.5°	993.0	992.8	992.6	992.3	992.1	992.0	992.2	992.4	992.6	992.6	993.5
160°	1011.6	1011.2	1010.8	1010.5	1010.0	1009.9	1009.9	1009.9	1009.9	1009.9	1010.8
162.5°	1028.1	1027.5	1027.0	1026.5	1026.0	1025.8	1025.9	1026.1	1026.2	1026.4	1027.3
165°	1049.4	1048.8	1048.3	1047.7	1047.1	1046.8	1046.8	1046.8	1046.8	1046.8	1047.9
167.5°	1066.4	1065.7	1064.9	1064.1	1063.3	1063.1	1063.2	1063.3	1063.5	1063.7	1064.9
170°	1076.1	1075.3	1074.5	1073.8	1073.0	1072.6	1072.6	1072.6	1072.6	1072.6	1073.9
172.5°	1083.6	1082.9	1082.1	1081.3	1080.6	1080.1	1080.1	1080.1	1080.1	1080.1	1081.3
175°	1091.5	1090.7	1089.9	1089.3	1088.5	1088.0	1088.0	1088.0	1088.0	1088.0	1089.3
177.5°	1094.8	1094.2	1093.6	1093.0	1092.4	1092.0	1092.0	1092.0	1092.0	1092.0	1093.0
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	827.6	827.6	827.6	827.6	827.6	827.6	827.6	827.6
2.5°	825.9	827.2	828.4	829.0	828.8	828.6	828.5	828.4
5°	824.5	826.1	827.7	828.4	828.2	828.0	827.9	827.6
7.5°	819.5	821.6	823.5	824.4	824.1	824.0	823.7	823.5
10°	814.5	816.5	818.5	819.3	818.9	818.5	818.1	817.7
12.5°	807.7	809.5	811.3	812.1	811.7	811.3	810.9	810.5
15°	794.6	796.7	798.7	799.5	799.4	799.2	798.9	798.7
17.5°	777.7	779.5	781.3	782.0	781.8	781.4	781.2	780.9
20°	765.4	767.2	769.0	770.0	770.3	770.4	770.6	770.9
22.5°	751.9	754.2	756.5	757.6	757.5	757.3	757.2	757.1
25°	729.2	731.8	734.3	735.6	735.6	735.6	735.6	735.6
27.5°	705.3	707.6	709.8	711.0	711.2	711.4	711.5	711.7
30°	689.1	691.5	693.9	695.1	695.1	695.1	695.1	695.1
32.5°	671.3	673.9	676.5	678.0	678.5	679.0	679.4	679.9
35°	645.2	648.2	651.2	653.2	653.9	654.7	655.5	656.3
37.5°	618.0	621.5	624.8	626.9	627.5	628.2	628.8	629.5
40°	600.0	603.4	606.8	608.9	609.8	610.5	611.3	612.2
42.5°	581.2	584.9	588.7	591.1	592.2	593.3	594.4	595.6
45°	553.0	556.8	560.7	563.4	565.0	566.5	568.2	569.8
47.5°	524.6	528.9	533.2	536.0	537.2	538.5	539.7	540.9
50°	505.1	509.6	514.3	517.3	518.7	520.0	521.5	522.9
52.5°	485.2	490.0	494.7	498.0	499.7	501.4	503.2	504.9
55°	455.3	460.7	466.1	469.6	471.2	472.8	474.4	476.0
57.5°	424.7	430.2	435.6	439.3	441.2	443.1	444.9	446.8
60°	403.4	409.0	414.6	418.5	420.7	422.9	425.2	427.3
62.5°	383.2	388.8	394.4	398.2	400.3	402.3	404.4	406.4
65°	351.0	357.0	363.0	367.0	369.0	371.0	373.1	375.1
67.5°	318.9	325.5	332.1	336.2	337.9	339.6	341.3	342.9
70°	297.7	304.1	310.6	314.7	316.8	318.7	320.7	322.8
72.5°	276.4	282.9	289.6	293.9	295.8	297.8	299.8	301.9
75°	244.0	250.6	257.3	261.7	264.2	266.6	269.0	271.4
77.5°	213.7	220.7	227.6	232.0	233.9	235.7	237.6	239.4
80°	193.9	200.7	207.6	212.0	214.0	215.9	218.0	220.0
82.5°	175.9	182.7	189.5	193.9	196.0	197.9	199.9	201.9
85°	150.7	157.5	164.3	168.7	170.7	172.7	174.7	176.7
87.5°	132.9	139.9	146.8	151.4	153.4	155.5	157.6	159.7
90°	137.7	145.3	152.8	157.8	160.1	162.6	165.0	167.3
92.5°	143.6	150.9	158.2	162.6	164.2	165.8	167.5	169.0
95°	166.8	173.7	180.7	185.2	187.3	189.2	191.2	193.3
97.5°	196.0	202.9	209.7	214.0	216.0	217.9	219.8	221.8
100°	217.6	223.9	230.3	234.7	237.0	239.4	241.9	244.3
102.5°	243.1	249.3	255.6	259.7	261.6	263.6	265.4	267.3
105°	281.6	287.3	292.9	296.8	298.9	301.2	303.3	305.5
107.5°	323.7	329.7	335.7	339.4	341.0	342.5	344.1	345.6
110°	352.4	358.3	364.4	367.9	369.2	370.4	371.6	372.8





TEST NUMBER: P331986-935

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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	380.4	386.3	392.3	396.1	397.8	399.5	401.2	402.9
115°	423.9	429.0	433.9	437.1	438.5	440.0	441.3	442.7
117.5°	467.6	472.3	477.1	479.9	481.0	482.0	483.0	484.1
120°	497.1	501.4	505.9	508.6	509.6	510.7	511.7	512.7
122.5°	526.9	530.8	534.8	537.2	538.0	538.9	539.8	540.7
125°	571.2	574.6	578.1	580.1	580.7	581.3	582.0	582.6
127.5°	614.8	617.8	620.7	622.3	622.8	623.4	623.8	624.3
130°	643.9	646.9	650.0	651.4	651.3	651.2	651.0	650.8
132.5°	671.9	674.7	677.4	678.9	679.2	679.6	679.9	680.3
135°	714.4	717.2	720.1	721.8	722.4	723.1	723.7	724.3
137.5°	756.0	758.4	760.8	762.1	762.3	762.6	762.9	763.2
140°	783.6	786.4	789.2	790.5	790.1	789.8	789.5	789.1
142.5°	809.0	811.5	813.9	815.2	815.1	815.1	815.1	815.0
145°	848.5	850.0	851.4	852.0	852.1	852.1	852.2	852.2
147.5°	886.4	886.8	887.3	887.3	886.9	886.5	886.1	885.6
150°	910.2	910.2	910.2	909.8	909.0	908.3	907.6	906.8
152.5°	932.8	933.1	933.4	933.1	932.2	931.3	930.3	929.4
155°	965.9	966.6	967.3	967.1	965.8	964.4	963.0	961.7
157.5°	994.3	995.1	995.9	995.7	994.7	993.6	992.6	991.4
160°	1011.8	1012.7	1013.7	1013.7	1013.1	1012.3	1011.5	1010.7
162.5°	1028.3	1029.2	1030.2	1030.0	1028.8	1027.6	1026.4	1025.2
165°	1049.1	1050.2	1051.4	1051.3	1050.0	1048.6	1047.3	1045.9
167.5°	1066.0	1067.2	1068.4	1068.4	1067.2	1066.0	1064.9	1063.7
170°	1075.3	1076.6	1078.0	1078.0	1076.6	1075.3	1073.9	1072.6
172.5°	1082.5	1083.7	1084.9	1084.9	1083.5	1082.2	1080.8	1079.4
175°	1090.4	1091.5	1092.7	1092.5	1091.2	1089.9	1088.6	1087.2
177.5°	1093.9	1094.8	1095.7	1095.6	1094.6	1093.5	1092.4	1091.3
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1

(END OF REPORT)