

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: P332297-927

Luminaire Tested: **S123RDIP-S560D1195U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332297-927
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: S123RDIP-S560D1195U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5471.5 lumens
Efficiency: N/A
Efficacy: 110.8 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

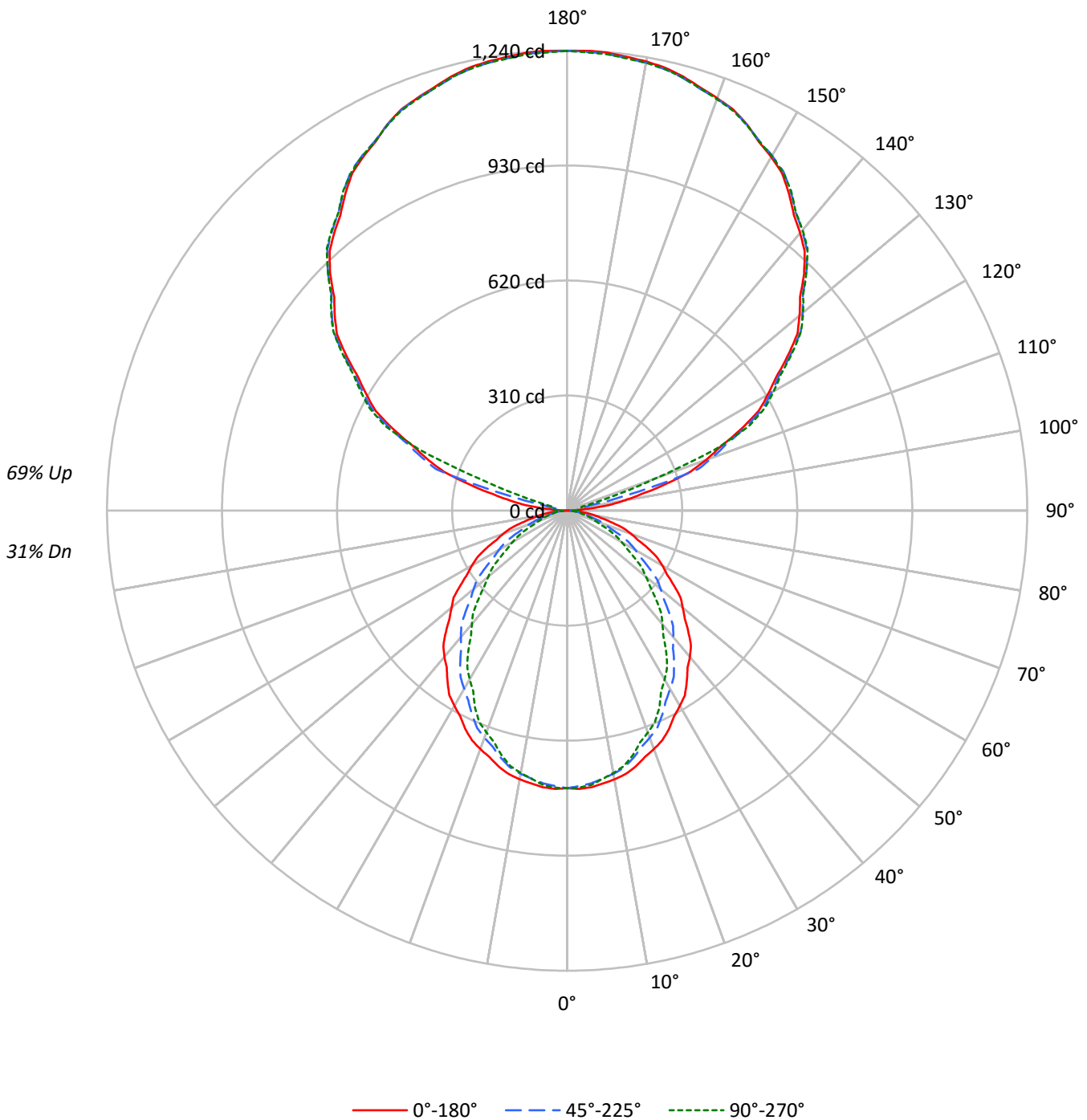
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	39	39	39	31	
1	94	90	86	83	84	81	78	75	64	62	60	49	47	46	34	34	33	34	34	33	26	
2	85	78	73	68	77	71	66	62	56	53	50	43	41	39	30	29	28	30	29	28	22	
3	78	69	62	57	70	62	56	52	50	46	42	38	35	33	27	25	24	27	25	24	19	
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21	24	22	21	17	
5	65	54	47	41	59	49	43	38	40	35	31	30	27	25	22	20	18	22	20	18	15	
6	60	49	41	35	54	44	37	33	36	31	27	28	24	21	20	18	16	20	18	16	13	
7	56	44	36	31	50	40	33	29	32	27	24	25	22	19	18	16	14	18	16	14	12	
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	17	15	13	17	15	13	10	
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	13	12	16	13	12	9	
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11	14	12	11	9	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8054	8054	8054
5°	8084	7973	8018
10°	8039	7873	7847
15°	7952	7689	7608
20°	7834	7458	7285
25°	7712	7201	6969
30°	7549	6901	6524
35°	7384	6603	6116
40°	7231	6250	5611
45°	7030	5903	5154
50°	6807	5508	4644
55°	6583	5056	4168
60°	6374	4573	3645
65°	6105	4050	3123
70°	5766	3402	2521
75°	5273	2674	2371
80°	4705	2374	2182
85°	3977	2100	1951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	1.3
10°-20°	195.5	3.6
20°-30°	281.5	5.1
30°-40°	317.1	5.8
40°-50°	303.3	5.5
50°-60°	248.4	4.5
60°-70°	167.6	3.1
70°-80°	84.3	1.5
80°-90°	25.8	0.5
90°-100°	45.0	0.8
100°-110°	214.7	3.9
110°-120°	515.6	9.4
120°-130°	656.6	12.0
130°-140°	701.5	12.8
140°-150°	656.0	12.0
150°-160°	529.2	9.7
160°-170°	341.5	6.2
170°-180°	117.7	2.2
0°-30°	547.2	10.0
0°-40°	864.3	15.8
0°-60°	1416.1	25.9
0°-90°	1693.8	31.0
90°-120°	775.3	14.2
90°-150°	2789.4	51.0
90°-180°	3778.0	69.0
0°-180°	5471.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	748	745	738	743	742	71
15°	714	706	690	687	683	201
25°	649	633	606	594	587	298
35°	562	539	502	477	465	352
45°	462	433	388	354	339	356
55°	351	320	269	236	222	314
65°	240	206	159	130	123	237
75°	127	97	64	58	57	135
85°	32	19	17	16	16	36
90°	1	10	22	26	28	4
95°	56	21	28	35	35	69
105°	274	279	202	48	40	291
115°	514	520	528	537	541	508
125°	725	732	736	738	740	647
135°	903	908	912	915	912	695
145°	1042	1048	1050	1052	1052	652
155°	1148	1146	1147	1151	1146	529
165°	1210	1208	1207	1213	1208	342
175°	1239	1234	1235	1241	1234	118
180°	1239	1239	1239	1239	1239	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	750.7	750.2	749.8	749.3	748.9	748.1	746.8	745.4	744.2	742.9	744.1
5°	748.2	747.6	746.9	746.2	745.5	744.4	742.8	741.2	739.5	737.9	739.1
7.5°	741.3	740.6	739.8	739.1	738.4	737.0	734.9	732.8	730.6	728.6	729.2
10°	735.5	734.5	733.6	732.6	731.7	730.0	727.6	725.2	722.7	720.3	720.4
12.5°	727.2	726.2	725.1	724.1	723.0	721.0	718.0	715.1	712.1	709.2	709.1
15°	713.6	712.2	710.7	709.2	707.7	705.0	701.3	697.5	693.7	690.0	689.3
17.5°	696.5	694.8	693.1	691.3	689.6	686.3	681.5	676.8	671.9	667.2	665.7
20°	683.9	681.8	679.6	677.4	675.3	671.6	666.5	661.4	656.2	651.1	649.4
22.5°	669.8	667.3	664.9	662.3	659.9	655.9	650.5	645.0	639.6	634.1	631.9
25°	649.3	645.9	642.5	639.2	635.8	631.1	624.8	618.6	612.4	606.3	603.4
27.5°	624.4	620.7	617.0	613.2	609.5	604.2	597.3	590.4	583.5	576.6	572.7
30°	607.4	603.4	599.4	595.3	591.3	585.4	577.9	570.4	562.8	555.2	550.6
32.5°	590.4	585.9	581.3	576.7	572.1	565.9	557.9	549.9	541.9	533.9	528.9
35°	561.9	557.1	552.2	547.4	542.5	535.9	527.5	519.2	510.8	502.5	496.6
37.5°	533.1	527.7	522.3	516.8	511.4	504.3	495.4	486.5	477.5	468.6	462.0
40°	514.6	508.7	502.7	496.8	490.8	483.1	473.6	464.0	454.4	444.8	437.8
42.5°	493.7	487.7	481.9	475.9	470.0	462.1	452.2	442.3	432.4	422.5	414.8
45°	461.8	455.7	449.6	443.6	437.5	429.3	418.9	408.5	398.2	387.8	380.1
47.5°	429.8	423.2	416.5	409.9	403.2	394.7	384.3	373.9	363.5	353.2	344.8
50°	406.5	400.2	393.9	387.5	381.2	372.6	361.6	350.8	339.8	328.9	320.5
52.5°	385.7	378.8	371.9	365.0	358.2	349.4	338.5	327.7	316.9	306.1	297.4
55°	350.8	344.1	337.5	330.9	324.3	315.3	303.8	292.4	280.9	269.4	261.6
57.5°	318.5	311.2	304.0	296.8	289.6	280.3	268.8	257.3	245.7	234.2	226.9
60°	296.1	288.8	281.3	273.9	266.5	257.1	246.0	234.8	223.6	212.4	205.1
62.5°	273.8	266.4	259.0	251.5	244.2	234.8	223.6	212.5	201.2	190.0	183.2
65°	239.7	232.3	224.9	217.5	210.0	201.1	190.5	180.1	169.5	159.0	152.4
67.5°	205.6	198.1	190.6	183.1	175.6	166.8	156.7	146.6	136.6	126.4	121.5
70°	183.2	175.9	168.7	161.4	154.2	145.8	136.3	126.9	117.5	108.1	103.3
72.5°	160.9	153.8	146.6	139.4	132.2	124.4	115.8	107.2	98.6	90.1	86.2
75°	126.8	120.3	113.9	107.4	100.9	94.0	86.6	79.1	71.8	64.3	63.0
77.5°	95.8	89.9	84.1	78.2	72.3	67.0	62.3	57.5	52.7	47.9	47.2
80°	75.9	70.3	64.8	59.3	53.7	49.6	46.7	43.9	41.0	38.3	37.8
82.5°	57.0	52.1	47.4	42.6	37.8	34.8	33.4	32.2	30.8	29.5	29.1
85°	32.2	29.2	26.2	23.3	20.3	18.6	18.2	17.8	17.4	17.0	16.7
87.5°	11.8	11.1	10.3	9.5	8.7	8.6	9.1	9.7	10.2	10.7	10.8
90°	1.0	2.9	5.0	7.1	9.1	11.5	14.1	16.8	19.4	22.1	22.9
92.5°	17.1	16.6	16.0	15.4	14.8	15.5	17.6	19.6	21.5	23.5	24.9
95°	56.2	47.8	39.4	31.0	22.6	19.6	21.8	24.0	26.3	28.5	29.9
97.5°	112.8	109.1	105.3	101.6	97.8	88.6	73.8	59.1	44.4	29.6	31.3
100°	155.5	159.6	163.7	167.8	171.9	158.0	126.1	94.2	62.3	30.3	32.0
102.5°	204.1	207.1	210.0	212.9	215.9	199.9	165.1	130.2	95.4	60.5	55.5
105°	274.3	276.6	278.8	281.0	283.3	275.2	256.7	238.4	220.0	201.5	165.3
107.5°	348.2	350.1	351.9	353.6	355.5	357.8	360.8	363.6	366.5	369.5	342.9
110°	397.6	399.3	400.8	402.5	404.2	406.1	408.4	410.6	412.8	415.1	408.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	444.7	446.2	447.7	449.2	450.6	452.5	454.7	457.0	459.2	461.4	461.6
115°	514.5	515.7	516.9	518.2	519.4	520.9	522.8	524.6	526.5	528.3	530.4
117.5°	582.0	583.5	585.0	586.6	588.1	589.3	590.3	591.2	592.2	593.1	594.7
120°	624.0	625.8	627.7	629.5	631.4	632.6	633.2	633.8	634.5	635.0	636.7
122.5°	666.7	668.2	669.7	671.2	672.8	673.9	674.7	675.5	676.2	677.0	678.2
125°	725.2	726.9	728.5	730.2	731.8	733.0	733.8	734.7	735.5	736.3	736.7
127.5°	782.0	783.5	785.2	786.9	788.5	789.8	790.8	791.8	792.7	793.7	794.4
130°	817.3	819.0	820.5	822.2	823.8	825.1	825.9	826.7	827.5	828.3	829.2
132.5°	851.1	852.8	854.4	856.0	857.7	858.8	859.5	860.2	860.8	861.5	862.3
135°	902.9	904.1	905.3	906.6	907.8	908.8	909.7	910.5	911.2	912.1	912.7
137.5°	947.1	948.6	950.1	951.7	953.3	954.3	954.7	955.2	955.6	956.1	957.0
140°	976.5	977.7	979.0	980.2	981.4	982.3	982.9	983.6	984.2	984.8	985.6
142.5°	1003.8	1005.0	1006.2	1007.4	1008.7	1009.6	1010.2	1010.8	1011.5	1012.0	1012.7
145°	1041.9	1043.3	1044.7	1046.2	1047.6	1048.5	1048.9	1049.3	1049.7	1050.1	1050.5
147.5°	1077.8	1078.7	1079.7	1080.5	1081.5	1082.2	1082.6	1083.0	1083.4	1083.8	1084.3
150°	1099.9	1100.4	1101.1	1101.7	1102.3	1102.8	1103.2	1103.6	1104.1	1104.5	1104.9
152.5°	1119.7	1120.0	1120.3	1120.5	1120.9	1121.1	1121.3	1121.7	1121.9	1122.1	1122.8
155°	1147.7	1147.3	1146.8	1146.4	1146.1	1146.0	1146.1	1146.4	1146.6	1146.8	1147.8
157.5°	1169.4	1169.3	1169.3	1169.3	1169.3	1169.1	1168.9	1168.7	1168.5	1168.3	1169.6
160°	1182.6	1182.5	1182.3	1182.1	1181.9	1181.6	1181.5	1181.2	1181.1	1180.8	1182.1
162.5°	1195.2	1194.7	1194.1	1193.6	1193.0	1192.7	1192.5	1192.3	1192.1	1191.8	1193.3
165°	1210.3	1209.7	1209.0	1208.5	1207.8	1207.4	1207.2	1207.0	1206.8	1206.6	1208.2
167.5°	1222.1	1221.2	1220.4	1219.6	1218.8	1218.4	1218.4	1218.4	1218.4	1218.4	1220.0
170°	1228.7	1227.9	1227.1	1226.2	1225.4	1225.0	1225.0	1225.0	1225.0	1225.0	1226.6
172.5°	1233.1	1232.2	1231.1	1230.2	1229.2	1228.8	1228.9	1229.1	1229.2	1229.4	1231.1
175°	1238.8	1237.8	1236.8	1235.7	1234.7	1234.3	1234.5	1234.7	1234.9	1235.1	1236.6
177.5°	1240.3	1239.4	1238.7	1237.9	1237.0	1236.7	1236.8	1237.0	1237.2	1237.3	1238.7
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	745.3	746.5	747.7	748.1	747.9	747.7	747.5	747.3
5°	740.3	741.6	742.8	743.2	743.0	742.7	742.4	742.1
7.5°	729.9	730.6	731.3	731.3	730.9	730.5	730.0	729.5
10°	720.6	720.7	720.8	720.6	719.9	719.2	718.6	717.9
12.5°	709.0	708.9	708.8	708.4	707.6	706.8	706.1	705.3
15°	688.6	687.9	687.3	686.4	685.5	684.6	683.7	682.7
17.5°	664.3	662.9	661.4	660.0	658.6	657.2	655.8	654.4
20°	647.6	645.9	644.1	642.5	640.8	639.2	637.5	636.0
22.5°	629.8	627.6	625.4	623.5	622.0	620.5	619.0	617.5
25°	600.6	597.7	594.9	592.7	591.3	589.8	588.3	586.8
27.5°	568.7	564.8	560.9	557.8	555.5	553.3	551.0	548.7
30°	546.1	541.5	536.9	533.5	531.4	529.3	527.0	524.9
32.5°	523.9	518.8	513.8	510.2	507.9	505.6	503.4	501.1
35°	490.8	485.1	479.3	475.2	472.7	470.3	467.9	465.4
37.5°	455.4	448.9	442.3	437.5	434.5	431.5	428.5	425.5
40°	430.8	423.7	416.8	411.7	408.6	405.5	402.4	399.3
42.5°	407.2	399.5	391.8	386.6	383.8	381.0	378.3	375.5
45°	372.4	364.7	357.0	351.6	348.3	345.1	341.8	338.6
47.5°	336.4	328.1	319.7	314.1	311.2	308.3	305.5	302.5
50°	312.2	303.8	295.5	289.7	286.6	283.5	280.4	277.3
52.5°	288.8	280.0	271.3	265.6	262.8	260.1	257.3	254.5
55°	253.8	246.0	238.1	232.9	230.2	227.5	224.8	222.1
57.5°	219.4	212.1	204.7	199.9	197.6	195.3	193.0	190.7
60°	197.8	190.5	183.2	178.5	176.2	173.9	171.6	169.3
62.5°	176.3	169.5	162.6	158.0	155.7	153.2	150.8	148.5
65°	145.8	139.2	132.5	128.5	127.1	125.6	124.1	122.6
67.5°	116.6	111.6	106.7	103.5	101.9	100.3	98.7	97.1
70°	98.5	93.9	89.1	86.0	84.5	83.1	81.6	80.1
72.5°	82.3	78.5	74.6	72.4	71.8	71.1	70.5	69.9
75°	61.6	60.3	58.9	58.1	57.8	57.6	57.3	57.0
77.5°	46.5	45.8	45.0	44.5	44.3	44.0	43.7	43.4
80°	37.4	37.0	36.6	36.3	36.0	35.7	35.5	35.2
82.5°	28.7	28.3	27.9	27.6	27.6	27.6	27.5	27.4
85°	16.5	16.2	15.9	15.8	15.8	15.8	15.8	15.8
87.5°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
90°	23.7	24.6	25.3	26.0	26.4	26.8	27.2	27.6
92.5°	26.1	27.5	28.8	29.5	29.8	30.1	30.3	30.6
95°	31.4	32.8	34.2	34.9	34.9	34.9	34.9	34.9
97.5°	32.9	34.5	36.2	37.1	37.3	37.5	37.7	37.9
100°	33.7	35.3	36.9	37.9	38.0	38.3	38.4	38.7
102.5°	50.4	45.3	40.2	37.9	38.3	38.7	39.1	39.4
105°	129.1	92.9	56.7	38.9	39.3	39.7	40.1	40.5
107.5°	316.3	289.8	263.2	236.3	209.1	181.7	154.5	127.2
110°	401.6	394.8	388.1	370.1	340.9	311.6	282.3	253.1



TEST NUMBER: P332297-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	461.7	461.8	462.0	458.9	452.7	446.6	440.4	434.2
115°	532.3	534.4	536.5	537.9	538.7	539.6	540.3	541.1
117.5°	596.4	598.0	599.6	600.6	600.7	600.9	601.0	601.2
120°	638.3	639.9	641.6	642.4	642.4	642.4	642.4	642.4
122.5°	679.3	680.5	681.6	682.2	682.4	682.5	682.8	682.9
125°	737.1	737.5	737.9	738.3	738.7	739.2	739.6	740.0
127.5°	795.0	795.7	796.3	796.5	796.1	795.7	795.3	794.8
130°	830.0	830.8	831.6	831.8	831.4	831.0	830.6	830.2
132.5°	863.1	864.0	864.7	864.8	864.3	863.7	863.2	862.5
135°	913.3	913.9	914.6	914.6	913.9	913.3	912.7	912.1
137.5°	958.1	959.0	960.0	960.3	959.9	959.5	959.1	958.6
140°	986.4	987.2	988.1	988.2	987.9	987.5	987.1	986.7
142.5°	1013.4	1014.0	1014.6	1014.7	1014.2	1013.5	1013.0	1012.4
145°	1051.0	1051.4	1051.8	1051.9	1051.9	1051.9	1051.9	1051.9
147.5°	1084.7	1085.1	1085.4	1085.2	1084.3	1083.3	1082.4	1081.4
150°	1105.3	1105.6	1106.0	1106.0	1105.3	1104.8	1104.1	1103.5
152.5°	1123.6	1124.3	1125.1	1125.0	1124.0	1123.1	1122.1	1121.2
155°	1148.8	1149.9	1150.9	1150.7	1149.5	1148.3	1147.1	1145.9
157.5°	1170.8	1172.0	1173.2	1173.1	1171.5	1169.8	1168.2	1166.6
160°	1183.3	1184.5	1185.7	1185.7	1184.2	1182.8	1181.3	1179.9
162.5°	1194.7	1196.0	1197.5	1197.5	1196.2	1194.9	1193.7	1192.4
165°	1209.9	1211.5	1213.1	1213.2	1211.8	1210.4	1208.9	1207.5
167.5°	1221.6	1223.3	1225.0	1225.0	1223.3	1221.6	1220.0	1218.4
170°	1228.3	1229.9	1231.5	1231.5	1229.9	1228.3	1226.6	1225.0
172.5°	1232.7	1234.3	1236.0	1235.9	1234.1	1232.3	1230.5	1228.7
175°	1238.0	1239.4	1240.9	1240.7	1239.1	1237.5	1235.9	1234.2
177.5°	1239.9	1241.3	1242.5	1242.4	1240.8	1239.1	1237.5	1235.9
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8

(END OF REPORT)