

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: P331816-830

Luminaire Tested: **S122RDIW-S675D970U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331816-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S675D970U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5354.5 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

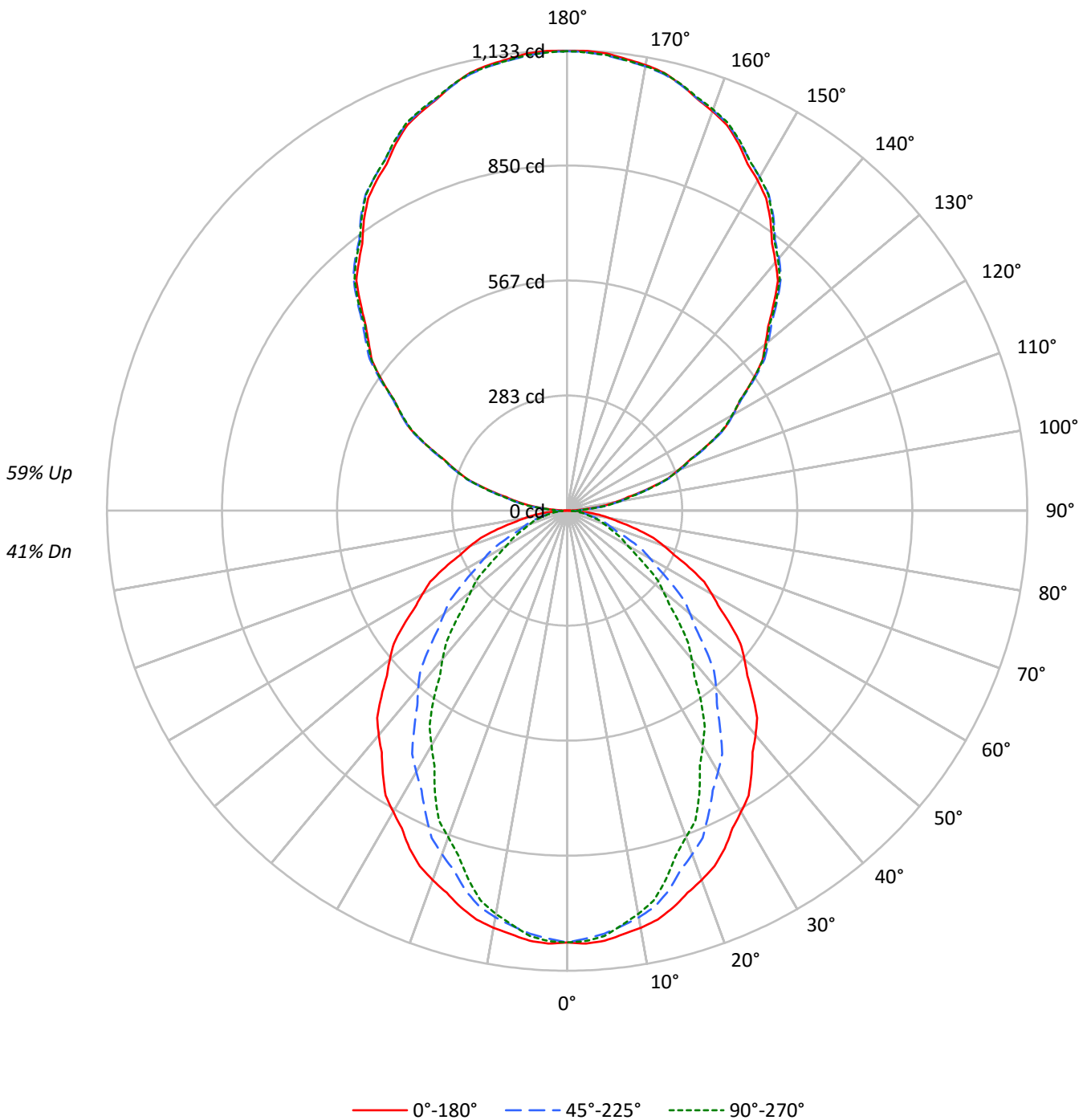
Input Watts (W): 52.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41																				
1	96	92	88	85	87	84	81	78	69	67	65	55	54	53	43	42	41	35																				
2	88	81	75	70	80	74	69	65	61	57	54	49	47	45	38	37	35	30																				
3	80	71	64	59	73	65	59	54	54	50	46	44	41	38	34	32	30	26																				
4	74	63	56	50	67	58	52	46	48	43	40	39	36	33	31	28	26	23																				
5	68	57	49	43	62	52	45	40	43	38	34	35	32	29	28	25	23	20																				
6	62	51	43	37	57	47	40	35	39	34	30	32	28	25	25	23	21	18																				
7	58	46	38	33	53	42	36	31	36	30	27	29	25	23	23	21	19	16																				
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	21	19	17	14																				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13																				
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	18	16	14	12																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17166	17166	17166
5°	17232	16951	17045
10°	17100	16674	16531
15°	16904	16181	15714
20°	16632	15474	14698
25°	16352	14672	13714
30°	15966	13848	12450
35°	15589	12952	11341
40°	15209	12026	10058
45°	14764	10985	8896
50°	14307	9934	7759
55°	13841	8802	6663
60°	13298	7611	5532
65°	12684	6395	5039
70°	11948	5268	4631
75°	11042	4803	4323
80°	9754	4296	3933
85°	7669	3390	3390



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.5	1.9
10°-20°	273.3	5.1
20°-30°	383.7	7.2
30°-40°	418.4	7.8
40°-50°	384.7	7.2
50°-60°	302.2	5.6
60°-70°	197.0	3.7
70°-80°	101.6	1.9
80°-90°	30.9	0.6
90°-100°	71.7	1.3
100°-110°	222.6	4.2
110°-120°	380.6	7.1
120°-130°	500.5	9.3
130°-140°	561.7	10.5
140°-150°	550.8	10.3
150°-160°	462.0	8.6
160°-170°	306.4	5.7
170°-180°	107.1	2.0
0°-30°	756.5	14.1
0°-40°	1174.9	21.9
0°-60°	1861.8	34.8
0°-90°	2191.3	40.9
90°-120°	674.9	12.6
90°-150°	2287.8	42.7
90°-180°	3163.0	59.1
0°-180°	5354.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1063	1063	1063	1063	1063	
5°	1063	1058	1046	1054	1052	101
15°	1011	999	968	950	940	285
25°	918	885	824	786	770	422
35°	791	740	657	599	575	495
45°	647	580	481	415	390	499
55°	492	415	313	257	237	439
65°	332	254	167	136	132	329
75°	177	112	77	71	69	187
85°	41	22	18	18	18	49
90°	1	13	33	32	32	4
95°	50	59	61	61	59	57
105°	205	208	210	212	212	217
115°	382	387	386	385	382	378
125°	556	564	561	559	558	496
135°	719	729	731	730	728	555
145°	872	879	885	886	882	545
155°	998	1000	1003	1008	1005	459
165°	1085	1085	1084	1090	1086	306
175°	1129	1126	1124	1131	1126	107
180°	1131	1131	1131	1131	1131	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2
2.5°	1067.1	1066.2	1065.4	1064.5	1063.7	1062.2	1060.4	1058.5	1056.7	1054.8	1056.5
5°	1063.2	1062.2	1061.1	1060.0	1058.9	1057.1	1054.2	1051.5	1048.7	1045.9	1047.8
7.5°	1052.3	1050.9	1049.6	1048.3	1047.0	1044.6	1041.4	1038.2	1034.9	1031.7	1032.2
10°	1043.0	1041.5	1040.0	1038.5	1037.0	1034.2	1029.8	1025.6	1021.3	1017.0	1016.4
12.5°	1031.4	1029.6	1027.7	1026.0	1024.1	1020.5	1015.0	1009.6	1004.0	998.5	997.4
15°	1011.3	1008.9	1006.5	1004.2	1001.8	997.0	989.8	982.5	975.2	968.0	963.9
17.5°	986.5	982.9	979.3	975.6	972.0	965.6	956.3	947.0	937.6	928.3	923.5
20°	968.0	963.7	959.4	955.2	950.8	943.4	932.6	922.0	911.3	900.6	895.2
22.5°	947.9	943.2	938.4	933.6	928.8	920.4	908.3	896.3	884.2	872.1	865.3
25°	917.9	911.1	904.3	897.4	890.6	880.1	866.0	851.9	837.7	823.6	814.8
27.5°	881.7	874.3	866.9	859.4	852.0	840.3	824.4	808.5	792.6	776.7	766.5
30°	856.4	848.2	840.1	832.0	823.9	811.2	794.1	777.0	759.9	742.8	731.9
32.5°	831.7	822.2	812.8	803.2	793.7	780.2	762.8	745.4	727.9	710.5	698.0
35°	790.9	780.0	769.1	758.2	747.3	732.4	713.6	694.8	676.0	657.1	643.7
37.5°	750.2	738.1	726.1	714.2	702.2	686.2	666.2	646.1	626.0	606.0	591.2
40°	721.6	708.8	696.0	683.2	670.3	653.6	632.8	612.1	591.4	570.6	555.4
42.5°	692.4	678.9	665.3	651.9	638.4	620.9	599.5	578.1	556.6	535.2	519.4
45°	646.6	632.3	617.9	603.6	589.3	570.9	548.5	526.0	503.5	481.1	465.9
47.5°	601.9	586.7	571.6	556.4	541.2	522.1	498.9	475.7	452.5	429.3	414.2
50°	569.6	554.4	539.2	524.1	508.9	489.6	466.0	442.5	419.0	395.5	380.7
52.5°	538.1	522.2	506.3	490.5	474.6	455.2	432.2	409.2	386.2	363.2	348.9
55°	491.7	475.0	458.4	441.7	425.0	405.1	382.0	358.9	335.8	312.7	299.9
57.5°	444.1	427.1	409.9	392.9	375.7	356.1	333.8	311.7	289.5	267.3	255.5
60°	411.8	394.7	377.6	360.5	343.4	323.9	301.8	279.7	257.8	235.7	224.8
62.5°	380.2	363.2	346.0	328.9	311.8	292.8	271.8	250.8	229.8	208.8	198.4
65°	332.0	314.6	297.3	280.0	262.7	244.4	225.2	205.9	186.6	167.4	160.1
67.5°	285.4	268.2	251.0	233.8	216.6	199.3	182.0	164.8	147.4	130.1	126.8
70°	253.1	236.4	219.7	203.0	186.3	170.6	155.9	141.1	126.4	111.6	109.4
72.5°	222.3	206.2	190.3	174.3	158.3	144.4	132.5	120.6	108.9	97.0	95.2
75°	177.0	162.1	147.1	132.1	117.2	106.0	98.8	91.5	84.3	77.0	75.5
77.5°	132.6	119.4	106.3	93.2	80.1	71.7	68.2	64.8	61.3	57.8	56.8
80°	104.9	94.0	83.0	72.2	61.3	54.8	52.6	50.4	48.4	46.2	45.3
82.5°	79.5	71.0	62.5	53.9	45.4	40.4	39.0	37.5	36.1	34.7	34.1
85°	41.4	36.9	32.4	27.9	23.4	20.8	20.2	19.6	18.9	18.3	18.3
87.5°	12.5	11.7	10.7	9.9	9.0	9.1	10.1	10.9	11.9	12.8	12.6
90°	0.9	3.5	6.0	8.6	11.1	14.7	19.4	24.0	28.7	33.4	33.0
92.5°	17.0	18.9	20.7	22.6	24.5	25.9	27.1	28.2	29.2	30.3	30.4
95°	49.7	51.7	53.9	56.0	58.2	59.4	59.9	60.2	60.7	61.1	61.1
97.5°	90.7	92.6	94.4	96.3	98.1	99.5	100.3	101.1	101.9	102.7	102.7
100°	121.2	122.9	124.6	126.3	128.0	129.2	129.8	130.4	131.1	131.8	131.8
102.5°	153.4	154.7	156.0	157.4	158.7	159.9	160.6	161.5	162.2	163.1	163.2
105°	205.3	205.9	206.5	207.2	207.8	208.3	208.8	209.2	209.6	210.0	210.5
107.5°	257.6	258.5	259.4	260.3	261.3	261.7	261.7	261.7	261.7	261.7	261.9
110°	291.2	292.5	293.7	295.0	296.2	296.9	296.9	296.9	296.9	296.9	296.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	327.8	329.1	330.4	331.7	332.9	333.5	333.3	333.1	333.0	332.8	332.2
115°	381.8	383.1	384.4	385.7	386.9	387.4	386.9	386.5	386.1	385.7	385.5
117.5°	435.7	437.4	439.1	440.8	442.5	442.7	441.6	440.4	439.2	438.0	437.5
120°	471.6	473.3	475.0	476.7	478.4	478.4	476.7	475.0	473.3	471.6	471.6
122.5°	504.4	506.5	508.5	510.6	512.6	513.0	511.8	510.7	509.4	508.2	507.7
125°	555.6	557.5	559.4	561.4	563.3	563.9	563.3	562.6	561.9	561.4	560.7
127.5°	605.5	607.8	610.3	612.7	615.1	616.0	615.2	614.4	613.7	612.9	612.1
130°	636.8	639.5	642.2	645.1	647.8	648.9	648.6	648.1	647.7	647.2	646.9
132.5°	671.8	674.1	676.4	678.6	680.9	682.0	682.1	682.2	682.3	682.4	681.5
135°	718.9	721.2	723.5	725.9	728.2	729.5	730.0	730.4	730.8	731.2	731.0
137.5°	768.3	770.2	772.1	774.0	775.9	777.2	777.7	778.3	778.8	779.4	779.2
140°	798.1	800.0	801.9	803.8	805.7	807.2	808.3	809.4	810.4	811.4	811.4
142.5°	828.7	830.6	832.5	834.3	836.3	837.6	838.3	839.1	839.8	840.5	840.7
145°	872.5	874.0	875.5	877.0	878.5	879.9	881.2	882.4	883.7	885.0	885.1
147.5°	911.7	913.5	915.3	917.0	918.8	920.1	921.0	921.8	922.7	923.5	924.0
150°	938.4	939.7	940.9	942.3	943.5	944.6	945.5	946.3	947.2	948.0	948.6
152.5°	962.1	963.4	964.7	965.9	967.2	968.4	969.4	970.3	971.4	972.4	973.2
155°	997.6	998.2	998.9	999.6	1000.1	1000.8	1001.5	1002.1	1002.7	1003.3	1004.4
157.5°	1027.9	1028.4	1028.8	1029.3	1029.6	1030.1	1030.5	1030.9	1031.2	1031.6	1033.0
160°	1046.3	1046.7	1047.2	1047.5	1048.0	1048.3	1048.6	1048.8	1049.0	1049.1	1050.5
162.5°	1063.1	1063.2	1063.3	1063.4	1063.5	1063.6	1063.8	1064.0	1064.2	1064.4	1065.9
165°	1085.4	1085.2	1085.1	1084.8	1084.6	1084.5	1084.5	1084.5	1084.5	1084.5	1086.0
167.5°	1104.2	1103.5	1102.9	1102.2	1101.6	1101.3	1101.3	1101.2	1101.2	1101.1	1102.6
170°	1114.1	1113.4	1112.9	1112.2	1111.5	1111.2	1110.9	1110.7	1110.5	1110.3	1111.7
172.5°	1121.0	1120.3	1119.6	1119.1	1118.4	1117.9	1117.8	1117.6	1117.4	1117.1	1118.6
175°	1129.4	1128.7	1128.1	1127.5	1126.8	1126.2	1125.9	1125.4	1125.0	1124.5	1126.1
177.5°	1132.8	1132.3	1131.8	1131.2	1130.8	1130.3	1130.0	1129.6	1129.4	1129.0	1130.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2	1063.2
2.5°	1058.2	1059.9	1061.6	1062.2	1062.0	1061.6	1061.3	1060.9
5°	1049.7	1051.7	1053.6	1054.2	1053.6	1052.9	1052.3	1051.7
7.5°	1032.7	1033.3	1033.9	1033.6	1032.5	1031.4	1030.3	1029.2
10°	1015.8	1015.1	1014.5	1013.5	1012.2	1011.0	1009.7	1008.3
12.5°	996.3	995.1	993.9	992.3	990.1	988.1	985.9	983.7
15°	959.9	955.7	951.7	948.6	946.5	944.3	942.2	940.1
17.5°	918.7	913.8	909.0	904.7	901.1	897.4	893.7	890.0
20°	889.9	884.6	879.2	874.2	869.5	864.8	860.1	855.4
22.5°	858.4	851.5	844.6	839.4	835.8	832.4	828.9	825.4
25°	806.1	797.3	788.5	782.6	779.4	776.2	773.0	769.8
27.5°	756.2	746.0	735.8	728.1	723.0	717.9	712.8	707.8
30°	721.0	710.1	699.2	690.9	685.0	679.3	673.5	667.8
32.5°	685.6	673.2	660.7	651.8	646.3	640.9	635.5	630.1
35°	630.3	616.8	603.3	594.2	589.5	584.8	580.1	575.4
37.5°	576.3	561.5	546.7	536.5	531.1	525.8	520.4	515.0
40°	540.2	525.0	509.8	499.5	493.9	488.3	482.8	477.2
42.5°	503.8	488.0	472.4	461.8	456.5	451.1	445.7	440.3
45°	450.7	435.5	420.4	410.2	405.1	399.9	394.8	389.6
47.5°	399.2	384.1	368.9	359.1	354.4	349.8	345.1	340.4
50°	366.0	351.2	336.5	326.8	322.3	317.8	313.4	308.9
52.5°	334.7	320.4	306.1	297.0	292.8	288.7	284.6	280.4
55°	287.1	274.2	261.4	253.0	248.9	244.8	240.7	236.7
57.5°	243.7	232.1	220.3	212.6	209.2	205.9	202.4	199.0
60°	214.0	203.0	192.1	184.9	181.5	178.1	174.7	171.3
62.5°	188.0	177.6	167.2	161.0	158.9	156.9	154.9	152.8
65°	152.9	145.6	138.4	134.4	133.7	133.1	132.4	131.9
67.5°	123.4	120.1	116.8	114.7	114.0	113.4	112.7	112.0
70°	107.4	105.2	103.0	101.6	100.7	99.8	99.0	98.1
72.5°	93.4	91.6	89.8	88.7	88.1	87.7	87.1	86.6
75°	74.0	72.5	71.0	70.1	69.9	69.7	69.5	69.3
77.5°	56.0	55.1	54.3	53.7	53.3	53.1	52.7	52.3
80°	44.5	43.6	42.8	42.3	42.3	42.3	42.3	42.3
82.5°	33.6	33.1	32.6	32.3	32.3	32.3	32.3	32.3
85°	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	12.3	12.1	11.8	11.7	11.8	11.8	11.9	11.9
90°	32.5	32.1	31.7	31.6	31.9	32.0	32.2	32.4
92.5°	30.5	30.6	30.7	30.7	30.8	30.8	30.9	30.9
95°	61.1	61.1	61.1	60.9	60.4	60.0	59.6	59.2
97.5°	102.7	102.7	102.7	102.7	102.6	102.6	102.5	102.5
100°	131.8	131.8	131.8	131.7	131.4	131.2	131.0	130.8
102.5°	163.4	163.5	163.7	163.7	163.5	163.2	163.1	162.9
105°	210.8	211.3	211.7	212.0	212.0	212.0	212.0	212.0
107.5°	262.1	262.3	262.4	262.0	261.1	260.0	259.1	258.2
110°	296.9	296.9	296.9	296.6	296.0	295.3	294.6	294.1



TEST NUMBER: P331816-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	331.8	331.3	330.7	330.3	329.8	329.3	328.9	328.4
115°	385.2	385.0	384.8	384.4	383.8	383.1	382.5	381.8
117.5°	437.0	436.5	435.9	435.4	434.8	434.1	433.5	432.8
120°	471.6	471.6	471.6	471.3	470.6	470.0	469.4	468.7
122.5°	507.3	506.7	506.2	505.8	505.3	504.8	504.4	503.9
125°	560.1	559.4	558.8	558.4	558.2	558.0	557.7	557.5
127.5°	611.3	610.6	609.8	609.1	608.4	607.8	607.1	606.4
130°	646.4	646.0	645.5	644.9	644.0	643.2	642.3	641.5
132.5°	680.5	679.6	678.6	677.9	677.2	676.5	675.8	675.1
135°	730.8	730.7	730.4	730.0	729.3	728.7	728.1	727.5
137.5°	779.0	778.9	778.7	778.2	777.3	776.5	775.6	774.8
140°	811.4	811.4	811.4	811.1	810.2	809.4	808.5	807.7
142.5°	840.8	841.0	841.1	840.8	840.0	839.1	838.3	837.4
145°	885.4	885.6	885.8	885.5	884.7	883.8	883.0	882.1
147.5°	924.4	924.9	925.4	925.2	924.4	923.6	922.8	922.0
150°	949.2	949.9	950.6	950.6	949.9	949.2	948.6	948.0
152.5°	974.0	974.9	975.6	975.6	974.9	974.0	973.2	972.4
155°	1005.5	1006.5	1007.6	1007.8	1007.2	1006.5	1005.9	1005.2
157.5°	1034.5	1035.9	1037.4	1037.6	1036.6	1035.6	1034.5	1033.5
160°	1051.7	1053.0	1054.2	1054.5	1053.7	1052.8	1052.0	1051.1
162.5°	1067.3	1068.7	1070.3	1070.4	1069.4	1068.4	1067.3	1066.4
165°	1087.5	1088.9	1090.4	1090.6	1089.6	1088.5	1087.5	1086.4
167.5°	1104.1	1105.6	1107.0	1107.2	1106.2	1105.0	1103.9	1102.9
170°	1113.2	1114.7	1116.3	1116.3	1115.0	1113.8	1112.5	1111.3
172.5°	1120.1	1121.6	1123.0	1123.2	1121.9	1120.7	1119.4	1118.1
175°	1127.6	1129.1	1130.5	1130.7	1129.4	1128.1	1126.8	1125.6
177.5°	1131.1	1132.0	1133.0	1133.0	1132.0	1131.1	1130.0	1129.0
180°	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2	1131.2

(END OF REPORT)