

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: P333030-927

Luminaire Tested: **S124RDIW-S350D1340U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333030-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S350D1340U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4820.9 lumens
Efficiency: N/A
Efficacy: 103.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

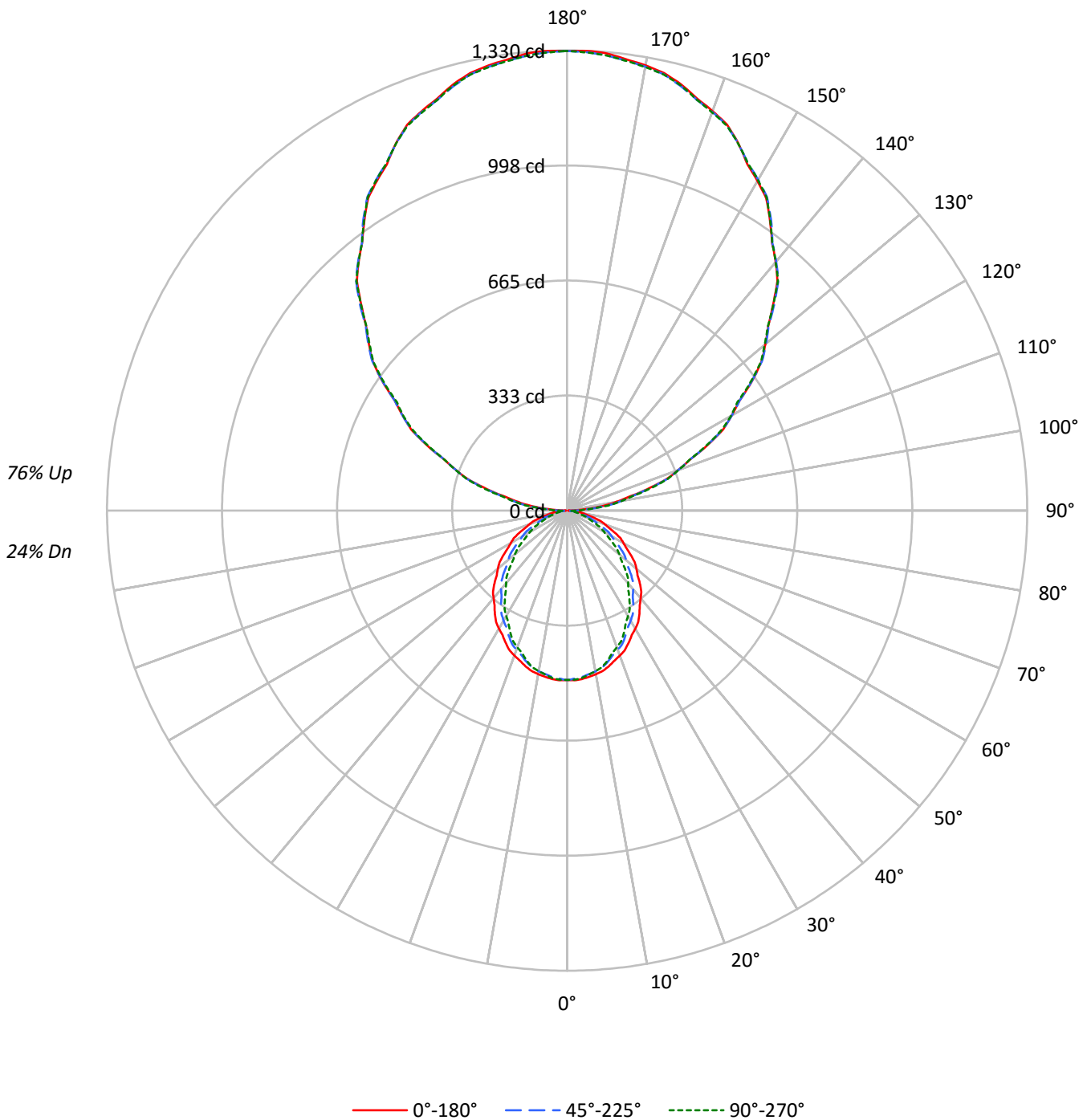
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	101	101	101	101	90	90	90	90	69	69	69	49	49	49	32	32	32	24
1	92	88	84	81	82	78	75	72	60	58	56	44	42	41	28	28	27	20
2	84	77	71	66	74	68	64	60	53	50	47	38	36	35	25	24	23	17
3	76	68	61	55	68	60	54	50	47	43	39	34	31	29	22	21	20	15
4	70	60	52	47	62	53	47	42	41	37	33	30	27	25	20	18	17	13
5	64	53	45	40	57	47	41	36	37	32	29	27	24	22	18	16	15	11
6	59	47	40	34	52	43	36	31	33	28	25	24	21	19	16	14	13	10
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9
8	50	39	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8
9	47	35	28	23	41	32	25	21	25	20	17	19	15	13	13	11	9	7
10	44	32	25	21	39	29	23	19	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	1.0
10°-20°	128.3	2.7
20°-30°	185.2	3.8
30°-40°	210.0	4.4
40°-50°	202.8	4.2
50°-60°	168.6	3.5
60°-70°	116.4	2.4
70°-80°	59.0	1.2
80°-90°	19.1	0.4
90°-100°	87.6	1.8
100°-110°	259.5	5.4
110°-120°	440.5	9.1
120°-130°	580.9	12.0
130°-140°	652.4	13.5
140°-150°	641.1	13.3
150°-160°	539.2	11.2
160°-170°	358.7	7.4
170°-180°	125.6	2.6
0°-30°	359.5	7.5
0°-40°	569.5	11.8
0°-60°	940.8	19.5
0°-90°	1135.4	23.6
90°-120°	787.7	16.3
90°-150°	2662.0	55.2
90°-180°	3686.0	76.5
0°-180°	4820.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	3	14	23	28	31	5
95°	62	71	78	81	81	69
105°	239	241	244	248	251	254
115°	448	448	446	445	444	442
125°	652	652	651	649	647	581
135°	841	847	848	845	842	651
145°	1022	1026	1027	1026	1023	639
155°	1171	1171	1170	1174	1170	539
165°	1275	1272	1270	1275	1272	359
175°	1326	1321	1320	1327	1320	126
180°	1328	1328	1328	1328	1328	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.5	7.4	7.4	7.4	7.4	7.5	7.8	8.2	8.4	8.7	9.0
90°	3.1	5.6	8.1	10.6	13.2	15.3	17.1	18.9	20.8	22.6	24.0
92.5°	22.0	24.9	27.7	30.6	33.5	35.6	36.8	38.1	39.4	40.7	41.5
95°	61.6	63.7	65.8	67.8	69.9	71.7	73.3	74.9	76.4	78.1	78.7
97.5°	107.7	109.3	111.0	112.6	114.2	116.0	117.9	119.8	121.6	123.5	124.3
100°	143.9	144.7	145.7	146.6	147.5	148.9	151.0	153.0	155.1	157.2	157.6
102.5°	181.6	182.0	182.4	182.8	183.1	184.2	186.1	188.0	189.8	191.7	192.3
105°	239.4	239.6	239.9	240.0	240.3	240.8	241.8	242.7	243.6	244.5	245.2
107.5°	300.0	300.2	300.6	300.8	301.1	301.3	301.4	301.6	301.7	301.8	302.5
110°	341.1	341.5	342.0	342.5	342.9	343.0	342.8	342.5	342.4	342.1	341.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	383.8	383.9	384.0	384.1	384.2	384.0	383.7	383.2	382.8	382.4	382.3
115°	447.9	447.9	447.9	447.9	447.9	447.7	447.3	446.8	446.3	445.8	445.7
117.5°	508.3	508.5	508.7	508.9	509.1	509.0	508.7	508.3	508.0	507.7	506.9
120°	548.6	549.5	550.4	551.4	552.2	552.4	551.7	551.0	550.3	549.6	548.5
122.5°	590.5	590.9	591.3	591.6	592.0	592.0	591.7	591.4	591.0	590.7	589.9
125°	652.4	652.4	652.4	652.4	652.4	652.3	652.0	651.8	651.6	651.3	650.9
127.5°	708.4	709.2	709.9	710.5	711.2	711.4	711.0	710.7	710.3	709.9	709.5
130°	747.9	748.6	749.3	750.0	750.7	751.0	751.0	751.0	751.0	751.0	750.5
132.5°	788.2	788.7	789.2	789.7	790.2	790.4	790.2	790.0	789.8	789.6	789.2
135°	841.4	842.8	844.1	845.5	846.9	847.6	847.6	847.6	847.6	847.6	847.2
137.5°	899.4	900.0	900.6	901.3	901.9	902.5	902.8	903.2	903.5	903.9	903.2
140°	938.0	938.4	938.9	939.4	939.8	940.0	940.0	940.0	940.0	940.0	939.8
142.5°	973.4	973.8	974.2	974.7	975.2	975.3	975.1	974.9	974.8	974.5	974.5
145°	1022.2	1023.2	1024.1	1025.0	1025.9	1026.4	1026.7	1026.9	1027.1	1027.4	1027.1
147.5°	1070.7	1071.8	1072.9	1074.0	1075.1	1075.5	1075.4	1075.2	1075.0	1074.8	1074.7
150°	1100.3	1101.2	1102.2	1103.0	1104.0	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4
152.5°	1128.2	1128.8	1129.3	1129.9	1130.4	1130.8	1131.0	1131.2	1131.4	1131.6	1132.1
155°	1171.2	1171.2	1171.2	1171.2	1171.2	1171.1	1170.8	1170.6	1170.4	1170.2	1171.1
157.5°	1207.4	1207.0	1206.6	1206.1	1205.7	1205.5	1205.5	1205.4	1205.4	1205.3	1206.0
160°	1228.8	1228.5	1228.3	1228.0	1227.8	1227.6	1227.3	1227.2	1226.9	1226.7	1227.3
162.5°	1248.5	1247.8	1247.3	1246.7	1246.1	1245.7	1245.5	1245.2	1245.0	1244.8	1246.0
165°	1274.9	1274.3	1273.6	1272.9	1272.2	1271.7	1271.2	1270.7	1270.3	1269.8	1271.2
167.5°	1295.3	1294.3	1293.4	1292.4	1291.5	1291.0	1291.1	1291.1	1291.2	1291.2	1292.6
170°	1306.8	1305.7	1304.6	1303.4	1302.3	1301.8	1302.0	1302.3	1302.5	1302.7	1304.1
172.5°	1315.0	1314.1	1313.1	1312.2	1311.2	1310.7	1310.8	1310.8	1310.9	1310.9	1312.5
175°	1326.4	1325.2	1324.1	1322.9	1321.8	1321.0	1320.9	1320.6	1320.4	1320.2	1321.8
177.5°	1330.0	1329.1	1328.2	1327.3	1326.4	1326.0	1326.0	1326.0	1326.0	1326.0	1327.2
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	9.1	9.3	9.6	9.7	9.9	10.1	10.2	10.4
90°	25.3	26.7	28.0	29.0	29.5	29.9	30.3	30.8
92.5°	42.3	43.2	44.0	44.5	44.8	45.1	45.3	45.6
95°	79.5	80.2	80.8	81.2	81.2	81.2	81.2	81.2
97.5°	125.2	126.0	126.7	127.2	127.2	127.2	127.2	127.2
100°	158.1	158.6	159.0	159.2	159.2	159.2	159.2	159.2
102.5°	193.0	193.6	194.2	194.6	194.9	195.0	195.2	195.4
105°	245.9	246.6	247.2	248.0	248.6	249.3	250.0	250.6
107.5°	303.1	303.7	304.4	304.7	304.7	304.6	304.6	304.5
110°	341.2	340.7	340.3	340.4	341.1	341.7	342.5	343.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	382.2	382.1	382.0	382.1	382.1	382.3	382.5	382.6
115°	445.4	445.2	445.0	444.7	444.5	444.3	444.0	443.9
117.5°	506.2	505.4	504.6	504.0	503.5	503.1	502.6	502.2
120°	547.4	546.2	545.1	544.7	545.2	545.7	546.1	546.5
122.5°	589.1	588.4	587.6	586.8	586.0	585.2	584.4	583.5
125°	650.5	650.0	649.5	649.0	648.6	648.2	647.7	647.2
127.5°	709.0	708.5	708.1	707.7	707.3	706.9	706.5	706.2
130°	750.1	749.6	749.2	748.5	747.6	746.6	745.8	744.8
132.5°	788.7	788.3	787.8	787.4	787.0	786.6	786.3	785.9
135°	846.7	846.2	845.7	845.2	844.5	843.8	843.1	842.4
137.5°	902.7	902.1	901.5	901.3	901.4	901.6	901.7	901.8
140°	939.6	939.4	939.1	938.9	938.7	938.4	938.2	938.0
142.5°	974.5	974.5	974.4	974.3	974.3	974.2	974.2	974.1
145°	1026.9	1026.7	1026.4	1026.0	1025.3	1024.6	1024.0	1023.3
147.5°	1074.4	1074.3	1074.1	1073.9	1073.6	1073.4	1073.2	1073.0
150°	1104.4	1104.4	1104.4	1104.3	1104.1	1103.8	1103.6	1103.4
152.5°	1132.7	1133.2	1133.8	1133.7	1133.1	1132.5	1131.9	1131.3
155°	1172.0	1172.9	1173.9	1173.9	1172.9	1172.0	1171.1	1170.2
157.5°	1206.7	1207.4	1208.1	1208.0	1207.2	1206.4	1205.7	1204.9
160°	1228.0	1228.8	1229.4	1229.2	1228.0	1226.9	1225.7	1224.6
162.5°	1247.2	1248.5	1249.7	1249.7	1248.6	1247.4	1246.3	1245.2
165°	1272.6	1273.9	1275.3	1275.6	1274.6	1273.7	1272.8	1271.8
167.5°	1294.0	1295.3	1296.6	1296.6	1295.2	1293.8	1292.4	1291.0
170°	1305.4	1306.8	1308.2	1308.1	1306.5	1304.9	1303.3	1301.7
172.5°	1314.0	1315.6	1317.2	1317.1	1315.5	1313.9	1312.3	1310.7
175°	1323.3	1324.9	1326.6	1326.6	1324.9	1323.3	1321.8	1320.2
177.5°	1328.5	1329.8	1331.0	1330.9	1329.5	1328.0	1326.6	1325.1
180°	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4	1328.4

(END OF REPORT)