

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: P331751-940

Luminaire Tested: **SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331751-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C1005D725U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

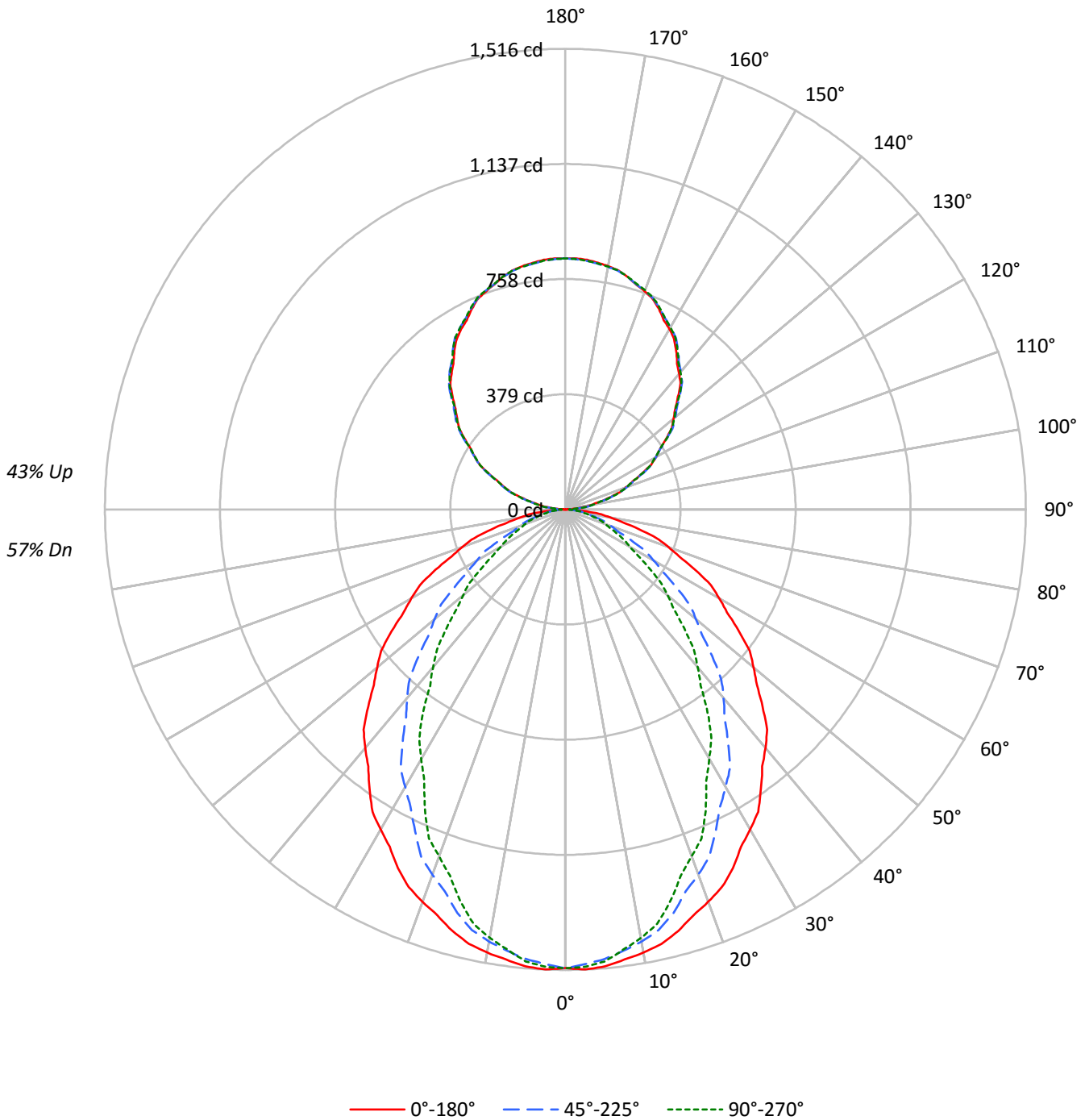
Lumens per Lamp: N/A
Luminaire Lumens: 5418.6 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.7
Input Voltage (V): 120
Input Current (Ain): 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	50	30	10	50	30	10	0																			
RCR																																														
0	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57									57																			
1	100	96	92	89	93	89	86	83	77	75	73	67	65	63	56	55	54	49									49																			
2	91	84	78	73	85	79	74	69	69	65	61	59	56	54	50	48	46	42									42																			
3	84	75	67	62	78	70	64	59	61	56	52	53	49	46	45	42	40	36									36																			
4	77	66	59	53	72	62	55	50	55	49	45	47	43	40	41	38	35	32									32																			
5	71	60	52	46	66	56	49	44	49	44	39	43	38	35	37	34	31	28									28																			
6	66	54	46	40	61	51	43	38	45	39	35	39	34	31	34	30	28	25									25																			
7	61	49	41	35	57	46	39	34	41	35	31	36	31	28	31	27	25	22									22																			
8	57	44	37	31	53	42	35	30	37	32	28	33	28	25	29	25	22	20									20																			
9	53	41	33	28	49	38	32	27	34	29	25	30	26	23	26	23	20	18									18																			
10	49	37	30	26	46	35	29	25	32	26	23	28	24	21	25	21	19	17									17																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	24380	24380	24380
5°	24473	24076	24209
10°	24287	23682	23481
15°	24008	22980	22318
20°	23622	21978	20874
25°	23225	20838	19475
30°	22676	19669	17682
35°	22141	18398	16109
40°	21602	17081	14286
45°	20970	15602	12638
50°	20321	14109	11017
55°	19657	12504	9464
60°	18887	10811	7857
65°	18010	9085	7156
70°	16966	7482	6581
75°	15689	6818	6138
80°	13845	6100	5588
85°	10893	4798	4798



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.3	2.6
10°-20°	388.1	7.2
20°-30°	545.0	10.1
30°-40°	594.3	11.0
40°-50°	546.4	10.1
50°-60°	429.2	7.9
60°-70°	279.8	5.2
70°-80°	144.3	2.7
80°-90°	40.7	0.8
90°-100°	52.3	1.0
100°-110°	162.5	3.0
110°-120°	277.9	5.1
120°-130°	365.4	6.7
130°-140°	410.1	7.6
140°-150°	402.1	7.4
150°-160°	337.3	6.2
160°-170°	223.7	4.1
170°-180°	78.2	1.4
0°-30°	1074.4	19.8
0°-40°	1668.7	30.8
0°-60°	2644.3	48.8
0°-90°	3109.1	57.4
90°-120°	492.7	9.1
90°-150°	1670.3	30.8
90°-180°	2309.0	42.6
0°-180°	5418.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1510	1510	1510	1510	1510	
5°	1510	1503	1486	1497	1494	143
15°	1436	1419	1375	1350	1335	404
25°	1304	1257	1170	1116	1093	599
35°	1123	1051	933	850	817	703
45°	918	824	683	590	554	709
55°	698	589	444	365	336	624
65°	471	360	238	194	187	467
75°	252	158	109	100	98	266
85°	59	31	26	26	26	69
90°	1	9	24	23	24	4
95°	36	43	45	45	43	42
105°	150	152	153	155	155	158
115°	279	283	282	281	279	276
125°	406	412	410	408	407	362
135°	525	532	534	533	531	405
145°	637	642	646	647	644	398
155°	728	730	732	736	734	335
165°	792	792	792	796	793	223
175°	825	822	821	825	822	78
180°	826	826	826	826	826	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1515.6	1514.3	1513.1	1511.9	1510.6	1508.7	1506.0	1503.4	1500.7	1498.1	1500.5
5°	1510.0	1508.5	1507.0	1505.5	1504.0	1501.3	1497.3	1493.3	1489.4	1485.5	1488.2
7.5°	1494.5	1492.6	1490.8	1488.8	1486.9	1483.7	1479.1	1474.4	1469.9	1465.3	1466.1
10°	1481.4	1479.3	1477.1	1475.0	1472.8	1468.7	1462.7	1456.6	1450.5	1444.5	1443.6
12.5°	1465.0	1462.3	1459.7	1457.1	1454.6	1449.3	1441.5	1433.8	1426.0	1418.3	1416.6
15°	1436.3	1432.9	1429.6	1426.2	1422.9	1416.0	1405.8	1395.4	1385.1	1374.8	1369.0
17.5°	1401.0	1395.9	1390.8	1385.7	1380.6	1371.5	1358.2	1345.0	1331.7	1318.5	1311.6
20°	1374.8	1368.7	1362.6	1356.6	1350.5	1339.9	1324.6	1309.5	1294.3	1279.1	1271.5
22.5°	1346.3	1339.5	1332.8	1326.0	1319.1	1307.2	1290.0	1272.9	1255.8	1238.7	1228.9
25°	1303.7	1294.0	1284.2	1274.5	1264.8	1250.0	1229.9	1209.9	1189.8	1169.7	1157.4
27.5°	1252.3	1241.8	1231.2	1220.7	1210.1	1193.5	1170.9	1148.3	1125.7	1103.1	1088.6
30°	1216.3	1204.7	1193.2	1181.6	1170.1	1152.2	1127.8	1103.6	1079.3	1055.0	1039.5
32.5°	1181.2	1167.8	1154.3	1140.9	1127.3	1108.2	1083.4	1058.6	1033.8	1009.1	991.4
35°	1123.3	1107.9	1092.3	1076.8	1061.4	1040.3	1013.5	986.9	960.1	933.4	914.3
37.5°	1065.4	1048.4	1031.4	1014.3	997.4	974.6	946.1	917.7	889.1	860.7	839.6
40°	1024.9	1006.7	988.5	970.3	952.1	928.2	898.8	869.3	839.8	810.4	788.8
42.5°	983.4	964.2	945.0	925.8	906.6	881.8	851.4	820.9	790.5	760.1	737.8
45°	918.4	898.0	877.6	857.3	837.0	810.8	778.9	747.1	715.2	683.3	661.7
47.5°	854.9	833.4	811.8	790.2	768.7	741.5	708.6	675.6	642.7	609.8	588.4
50°	809.0	787.5	765.9	744.3	722.7	695.3	661.9	628.5	595.0	561.7	540.7
52.5°	764.2	741.6	719.2	696.6	674.0	646.5	613.8	581.1	548.4	515.8	495.5
55°	698.3	674.7	650.9	627.2	603.6	575.3	542.5	509.7	477.0	444.2	425.9
57.5°	630.8	606.5	582.2	557.9	533.6	505.7	474.2	442.6	411.2	379.6	362.9
60°	584.9	560.6	536.3	512.0	487.7	459.9	428.6	397.3	366.0	334.8	319.3
62.5°	540.1	515.8	491.5	467.2	442.9	415.8	386.0	356.1	326.4	296.6	281.8
65°	471.4	446.8	422.3	397.7	373.1	347.1	319.8	292.5	265.1	237.8	227.5
67.5°	405.3	380.9	356.5	332.1	307.6	283.1	258.6	234.0	209.4	184.8	180.0
70°	359.4	335.7	312.0	288.4	264.7	242.4	221.4	200.5	179.5	158.5	155.5
72.5°	315.7	292.9	270.3	247.5	224.8	205.0	188.2	171.4	154.5	137.8	135.2
75°	251.5	230.2	208.9	187.7	166.4	150.6	140.3	130.0	119.7	109.3	107.2
77.5°	188.3	169.7	151.1	132.4	113.7	101.9	96.9	91.9	86.9	82.0	80.8
80°	148.9	133.5	118.0	102.5	87.0	77.8	74.7	71.7	68.7	65.6	64.4
82.5°	112.9	100.8	88.7	76.6	64.6	57.4	55.4	53.3	51.3	49.2	48.5
85°	58.8	52.3	46.0	39.6	33.3	29.6	28.7	27.8	26.8	25.9	25.9
87.5°	17.7	16.1	14.4	12.9	11.3	10.9	11.6	12.3	12.9	13.6	13.3
90°	0.7	2.6	4.5	6.2	8.1	10.8	14.2	17.6	21.0	24.4	24.1
92.5°	12.4	13.7	15.2	16.5	17.8	18.9	19.7	20.5	21.4	22.2	22.2
95°	36.2	37.8	39.3	40.9	42.4	43.3	43.7	44.0	44.3	44.6	44.6
97.5°	66.3	67.6	68.9	70.3	71.7	72.7	73.2	73.8	74.4	75.0	75.0
100°	88.5	89.8	91.0	92.2	93.5	94.3	94.8	95.2	95.7	96.2	96.2
102.5°	111.9	112.9	114.0	114.9	115.9	116.7	117.3	117.9	118.4	119.0	119.1
105°	149.9	150.3	150.8	151.2	151.7	152.1	152.4	152.8	153.0	153.4	153.6
107.5°	188.1	188.8	189.4	190.1	190.7	191.1	191.1	191.1	191.1	191.1	191.3
110°	212.6	213.5	214.5	215.3	216.3	216.8	216.8	216.8	216.8	216.8	216.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	239.3	240.3	241.2	242.1	243.1	243.4	243.3	243.3	243.1	243.0	242.6
115°	278.8	279.7	280.6	281.6	282.5	282.9	282.5	282.2	281.9	281.6	281.4
117.5°	318.1	319.3	320.6	321.8	323.1	323.2	322.4	321.6	320.7	319.8	319.4
120°	344.3	345.5	346.8	348.0	349.3	349.3	348.0	346.8	345.5	344.3	344.3
122.5°	368.3	369.8	371.3	372.7	374.3	374.5	373.7	372.8	371.9	371.0	370.7
125°	405.6	407.1	408.4	409.8	411.3	411.7	411.3	410.7	410.3	409.8	409.4
127.5°	442.0	443.8	445.6	447.4	449.1	449.7	449.2	448.6	448.0	447.5	446.9
130°	464.9	466.9	469.0	470.9	473.0	473.8	473.5	473.1	472.9	472.6	472.3
132.5°	490.5	492.2	493.8	495.4	497.1	497.9	498.0	498.1	498.1	498.2	497.6
135°	524.9	526.6	528.2	529.9	531.6	532.6	533.0	533.2	533.6	533.9	533.8
137.5°	561.0	562.3	563.7	565.2	566.5	567.4	567.8	568.2	568.6	569.0	568.9
140°	582.7	584.1	585.5	586.8	588.3	589.3	590.1	590.9	591.7	592.5	592.5
142.5°	605.0	606.4	607.8	609.2	610.6	611.5	612.1	612.6	613.1	613.7	613.8
145°	637.0	638.1	639.3	640.3	641.4	642.4	643.4	644.3	645.2	646.1	646.3
147.5°	665.7	666.9	668.2	669.5	670.8	671.8	672.4	673.1	673.7	674.3	674.6
150°	685.2	686.1	687.0	688.0	688.8	689.6	690.3	690.9	691.5	692.1	692.6
152.5°	702.4	703.4	704.3	705.3	706.1	706.9	707.8	708.5	709.2	710.0	710.5
155°	728.3	728.8	729.3	729.8	730.2	730.7	731.1	731.6	732.1	732.5	733.3
157.5°	750.6	750.8	751.2	751.4	751.8	752.1	752.3	752.6	752.9	753.1	754.2
160°	763.9	764.2	764.6	764.8	765.2	765.4	765.5	765.7	765.9	766.0	767.0
162.5°	776.1	776.2	776.3	776.3	776.4	776.5	776.7	776.9	777.0	777.1	778.2
165°	792.5	792.4	792.2	792.0	791.8	791.8	791.8	791.8	791.8	791.8	792.9
167.5°	806.1	805.7	805.2	804.8	804.3	804.1	804.1	804.0	804.0	803.9	805.0
170°	813.4	813.0	812.4	812.0	811.5	811.2	811.1	810.9	810.7	810.6	811.7
172.5°	818.4	818.0	817.5	817.0	816.5	816.3	816.1	815.9	815.8	815.6	816.7
175°	824.6	824.1	823.6	823.1	822.7	822.3	822.0	821.7	821.4	821.1	822.2
177.5°	827.1	826.7	826.3	825.9	825.5	825.3	825.0	824.7	824.5	824.3	825.0
180°	825.9	825.9	825.9	825.9	825.9	825.9	825.9	825.9	825.9	825.9	825.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0	1510.0
2.5°	1502.9	1505.3	1507.8	1508.7	1508.2	1507.8	1507.3	1506.8
5°	1490.9	1493.7	1496.4	1497.3	1496.4	1495.5	1494.6	1493.7
7.5°	1466.8	1467.6	1468.4	1468.0	1466.4	1464.8	1463.3	1461.7
10°	1442.6	1441.7	1440.8	1439.5	1437.6	1435.8	1434.0	1432.2
12.5°	1415.0	1413.3	1411.7	1409.3	1406.3	1403.3	1400.3	1397.2
15°	1363.2	1357.5	1351.7	1347.3	1344.3	1341.2	1338.2	1335.2
17.5°	1304.8	1297.9	1291.0	1285.0	1279.8	1274.5	1269.3	1264.1
20°	1263.9	1256.3	1248.8	1241.6	1234.9	1228.2	1221.6	1214.9
22.5°	1219.1	1209.3	1199.5	1192.1	1187.2	1182.2	1177.2	1172.2
25°	1144.9	1132.5	1120.0	1111.5	1106.9	1102.3	1097.8	1093.2
27.5°	1074.1	1059.5	1045.0	1034.1	1026.9	1019.7	1012.4	1005.2
30°	1024.0	1008.5	993.0	981.2	973.0	964.8	956.6	948.4
32.5°	973.7	956.1	938.3	925.7	918.0	910.3	902.5	894.8
35°	895.1	876.0	856.8	843.9	837.2	830.5	823.9	817.3
37.5°	818.5	797.5	776.3	762.0	754.4	746.7	739.0	731.4
40°	767.2	745.6	724.2	709.4	701.5	693.6	685.7	677.8
42.5°	715.5	693.2	670.9	655.9	648.3	640.6	633.0	625.4
45°	640.2	618.6	597.0	582.6	575.3	568.0	560.7	553.5
47.5°	566.9	545.5	524.0	510.0	503.4	496.8	490.1	483.5
50°	519.8	498.8	477.9	464.1	457.8	451.4	445.1	438.6
52.5°	475.3	455.0	434.9	421.8	415.9	410.0	404.1	398.2
55°	407.7	389.5	371.2	359.3	353.5	347.7	342.0	336.2
57.5°	346.3	329.5	312.8	302.0	297.2	292.3	287.5	282.6
60°	303.8	288.4	272.9	262.7	257.8	253.0	248.1	243.3
62.5°	267.1	252.3	237.6	228.6	225.8	222.8	219.9	217.0
65°	217.1	206.8	196.4	190.8	189.9	189.0	188.2	187.3
67.5°	175.3	170.6	165.8	162.9	162.0	161.0	160.1	159.1
70°	152.5	149.5	146.4	144.3	143.0	141.8	140.6	139.4
72.5°	132.7	130.1	127.5	125.9	125.2	124.5	123.7	123.0
75°	105.0	103.0	100.9	99.6	99.3	99.0	98.7	98.4
77.5°	79.5	78.4	77.1	76.2	75.8	75.3	74.8	74.4
80°	63.1	62.0	60.7	60.1	60.1	60.1	60.1	60.1
82.5°	47.7	47.0	46.3	45.9	45.9	45.9	45.9	45.9
85°	25.9	25.9	25.9	25.9	25.9	25.9	25.9	25.9
87.5°	13.0	12.8	12.4	12.3	12.3	12.3	12.4	12.4
90°	23.8	23.5	23.2	23.1	23.3	23.4	23.5	23.7
92.5°	22.3	22.4	22.4	22.5	22.5	22.6	22.6	22.6
95°	44.6	44.6	44.6	44.5	44.1	43.9	43.5	43.2
97.5°	75.0	75.0	75.0	75.0	75.0	74.9	74.9	74.8
100°	96.2	96.2	96.2	96.1	95.9	95.8	95.7	95.5
102.5°	119.3	119.4	119.6	119.5	119.4	119.2	119.0	118.9
105°	154.0	154.3	154.6	154.7	154.7	154.7	154.7	154.7
107.5°	191.4	191.5	191.6	191.4	190.6	189.9	189.2	188.5
110°	216.8	216.8	216.8	216.5	216.1	215.6	215.2	214.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	242.2	241.8	241.5	241.1	240.8	240.4	240.1	239.8
115°	281.2	281.2	281.0	280.6	280.2	279.7	279.3	278.8
117.5°	319.1	318.7	318.3	317.9	317.4	316.9	316.5	316.0
120°	344.3	344.3	344.3	344.1	343.6	343.1	342.7	342.2
122.5°	370.3	370.0	369.6	369.3	368.9	368.5	368.2	367.9
125°	408.9	408.4	408.0	407.7	407.5	407.3	407.2	407.1
127.5°	446.4	445.8	445.2	444.7	444.3	443.7	443.3	442.7
130°	472.0	471.6	471.4	470.8	470.2	469.7	469.0	468.4
132.5°	496.9	496.1	495.5	494.9	494.4	493.9	493.4	492.9
135°	533.6	533.4	533.2	533.0	532.5	532.1	531.5	531.1
137.5°	568.8	568.6	568.6	568.2	567.6	566.9	566.3	565.7
140°	592.5	592.5	592.5	592.1	591.6	590.9	590.3	589.7
142.5°	613.9	614.0	614.1	613.9	613.2	612.6	612.1	611.4
145°	646.4	646.6	646.8	646.5	645.9	645.2	644.6	644.0
147.5°	674.9	675.3	675.6	675.6	674.9	674.3	673.8	673.2
150°	693.0	693.5	694.0	694.0	693.5	693.0	692.6	692.1
152.5°	711.1	711.8	712.3	712.3	711.8	711.1	710.5	710.0
155°	734.1	734.9	735.7	735.8	735.3	734.9	734.4	734.0
157.5°	755.3	756.3	757.4	757.5	756.8	756.1	755.3	754.6
160°	767.9	768.8	769.7	769.9	769.3	768.7	768.0	767.4
162.5°	779.3	780.3	781.4	781.5	780.8	780.1	779.3	778.6
165°	794.0	795.0	796.1	796.3	795.5	794.7	794.0	793.2
167.5°	806.1	807.2	808.2	808.4	807.6	806.8	806.0	805.2
170°	812.8	813.9	814.9	815.0	814.1	813.2	812.3	811.3
172.5°	817.8	818.9	819.9	820.0	819.1	818.1	817.3	816.4
175°	823.2	824.3	825.4	825.5	824.6	823.6	822.7	821.8
177.5°	825.7	826.5	827.2	827.2	826.5	825.7	825.0	824.3
180°	825.9	825.9	825.9	825.9	825.9	825.9	825.9	825.9

(END OF REPORT)