

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: P331757-930

Luminaire Tested: **SA2XXRDIP-C1005D925U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331757-930
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-C1005D925U930-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5539.5 lumens
Efficiency: N/A
Efficacy: 82.9 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

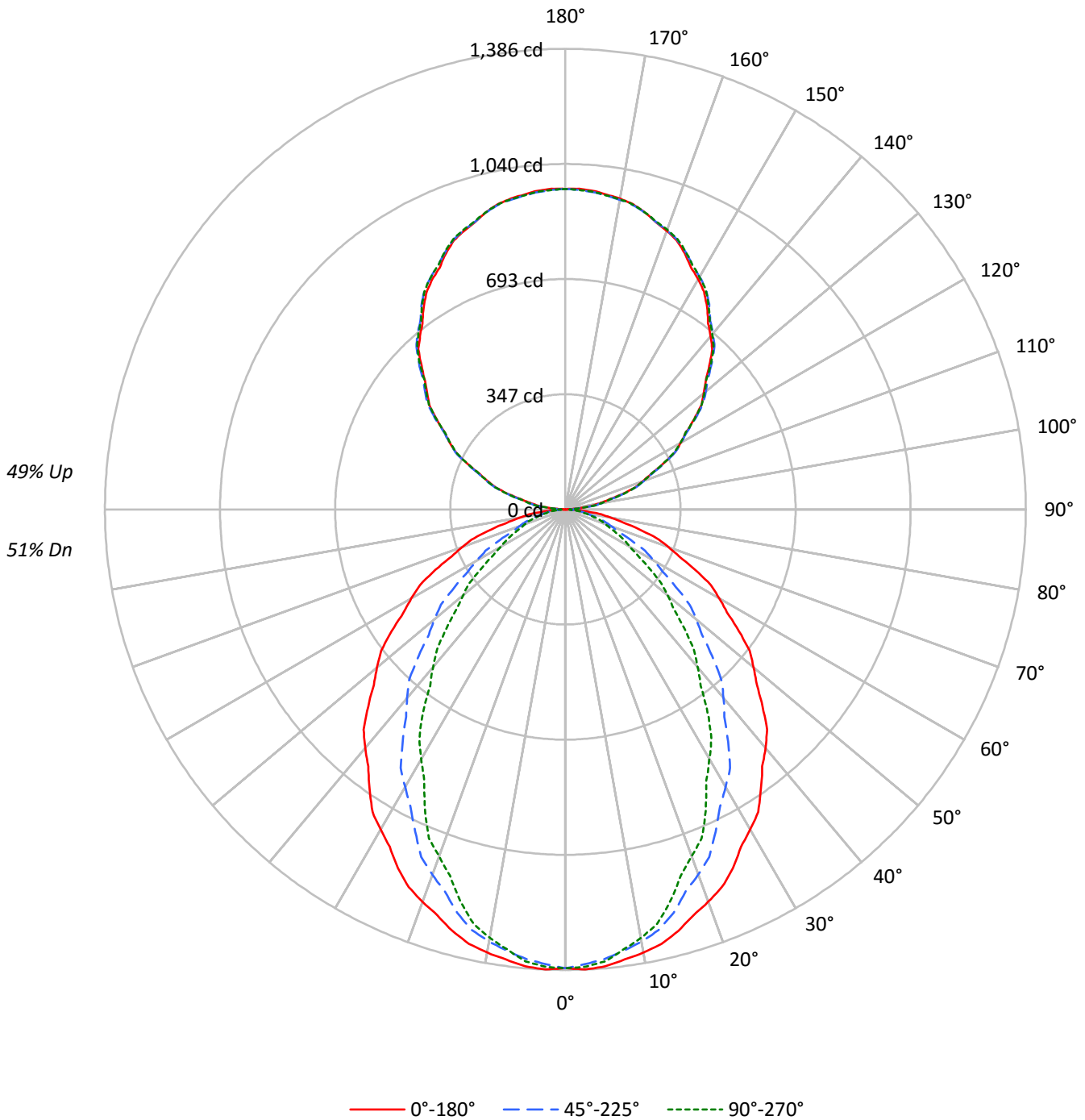
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	99	94	91	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	68	66	62	59	55	53	50	46	44	42	38
3	83	73	66	61	76	68	62	57	58	54	50	49	46	43	41	39	37	33
4	76	65	58	52	70	61	54	49	52	47	43	44	41	37	37	34	32	28
5	70	58	51	45	64	54	47	42	47	42	37	40	36	33	34	31	28	25
6	64	53	45	39	59	49	42	37	43	37	33	36	32	29	31	28	25	22
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	22	20
8	55	43	36	31	51	41	34	29	35	30	26	31	26	23	26	23	20	18
9	52	40	32	27	48	37	31	26	33	27	24	28	24	21	24	21	18	16
10	48	37	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22291	22291	22291
5°	22376	22013	22135
10°	22207	21653	21469
15°	21951	21010	20404
20°	21596	20094	19086
25°	21235	19053	17808
30°	20734	17984	16168
35°	20243	16821	14728
40°	19751	15616	13061
45°	19173	14266	11556
50°	18580	12901	10073
55°	17973	11431	8653
60°	17270	9884	7182
65°	16466	8306	6541
70°	15512	6845	6014
75°	14342	6238	5608
80°	12664	5579	5114
85°	9948	4390	4390



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.2	2.3
10°-20°	354.8	6.4
20°-30°	498.3	9.0
30°-40°	543.4	9.8
40°-50°	499.6	9.0
50°-60°	392.4	7.1
60°-70°	255.8	4.6
70°-80°	131.9	2.4
80°-90°	38.1	0.7
90°-100°	61.1	1.1
100°-110°	189.8	3.4
110°-120°	324.3	5.9
120°-130°	426.5	7.7
130°-140°	478.7	8.6
140°-150°	469.4	8.5
150°-160°	393.7	7.1
160°-170°	261.1	4.7
170°-180°	91.3	1.6
0°-30°	982.4	17.7
0°-40°	1525.7	27.5
0°-60°	2417.7	43.6
0°-90°	2843.5	51.3
90°-120°	575.2	10.4
90°-150°	1949.8	35.2
90°-180°	2696.0	48.7
0°-180°	5539.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1381	1381	1381	1381	1381	
5°	1381	1374	1358	1369	1366	131
15°	1313	1298	1257	1234	1221	370
25°	1192	1150	1070	1020	1000	548
35°	1027	961	853	778	747	642
45°	840	753	625	539	506	648
55°	638	539	406	334	307	570
65°	431	329	217	177	171	427
75°	230	145	100	92	90	243
85°	54	29	24	24	24	63
90°	1	11	28	27	28	4
95°	42	50	52	52	50	49
105°	175	177	179	180	181	185
115°	326	330	329	328	326	322
125°	474	480	478	476	475	423
135°	613	621	623	622	620	473
145°	744	749	754	755	752	464
155°	850	853	855	859	857	391
165°	925	924	924	929	926	261
175°	962	960	958	964	959	91
180°	964	964	964	964	964	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6
2.5°	1385.7	1384.5	1383.4	1382.3	1381.2	1379.4	1377.0	1374.6	1372.1	1369.7	1371.9
5°	1380.6	1379.2	1377.9	1376.5	1375.1	1372.6	1369.0	1365.4	1361.8	1358.2	1360.7
7.5°	1366.4	1364.7	1363.0	1361.2	1359.5	1356.6	1352.3	1348.1	1343.9	1339.7	1340.4
10°	1354.5	1352.5	1350.5	1348.6	1346.6	1342.9	1337.3	1331.8	1326.2	1320.7	1319.9
12.5°	1339.5	1337.0	1334.6	1332.3	1329.9	1325.1	1318.0	1310.9	1303.8	1296.7	1295.2
15°	1313.2	1310.1	1307.1	1304.0	1301.0	1294.7	1285.3	1275.9	1266.4	1256.9	1251.7
17.5°	1280.9	1276.3	1271.6	1267.0	1262.3	1253.9	1241.8	1229.7	1217.6	1205.5	1199.2
20°	1256.9	1251.4	1245.9	1240.3	1234.8	1225.1	1211.1	1197.3	1183.4	1169.5	1162.5
22.5°	1230.9	1224.7	1218.5	1212.4	1206.1	1195.1	1179.5	1163.8	1148.2	1132.5	1123.6
25°	1192.0	1183.1	1174.2	1165.3	1156.4	1142.9	1124.5	1106.2	1087.9	1069.5	1058.2
27.5°	1145.0	1135.4	1125.7	1116.1	1106.4	1091.2	1070.6	1049.9	1029.2	1008.6	995.3
30°	1112.1	1101.5	1091.0	1080.4	1069.8	1053.4	1031.2	1009.0	986.8	964.6	950.4
32.5°	1080.0	1067.7	1055.4	1043.1	1030.7	1013.3	990.6	967.9	945.3	922.6	906.4
35°	1027.0	1012.9	998.7	984.6	970.5	951.1	926.7	902.3	877.8	853.4	835.9
37.5°	974.1	958.5	943.0	927.4	911.9	891.1	865.0	839.0	812.9	786.9	767.7
40°	937.1	920.5	903.8	887.1	870.5	848.6	821.7	794.8	767.8	740.9	721.2
42.5°	899.1	881.6	864.1	846.4	828.9	806.2	778.4	750.6	722.8	695.0	674.6
45°	839.7	821.0	802.4	783.8	765.2	741.4	712.2	683.1	653.9	624.8	605.0
47.5°	781.6	762.0	742.2	722.5	702.8	677.9	647.8	617.7	587.6	557.5	537.9
50°	739.7	720.0	700.3	680.5	660.8	635.7	605.2	574.6	544.0	513.6	494.4
52.5°	698.7	678.1	657.5	636.9	616.3	591.1	561.2	531.3	501.4	471.6	453.1
55°	638.5	616.9	595.2	573.5	551.9	526.0	496.0	466.0	436.1	406.1	389.4
57.5°	576.7	554.6	532.3	510.1	487.9	462.4	433.6	404.7	375.9	347.1	331.8
60°	534.8	512.6	490.3	468.1	445.9	420.5	391.9	363.3	334.7	306.1	292.0
62.5°	493.8	471.6	449.4	427.1	405.0	380.2	352.9	325.6	298.4	271.2	257.6
65°	431.0	408.5	386.1	363.6	341.1	317.4	292.4	267.4	242.4	217.4	208.0
67.5°	370.6	348.3	326.0	303.6	281.3	258.9	236.4	213.9	191.4	168.9	164.6
70°	328.6	307.0	285.3	263.7	242.0	221.6	202.4	183.3	164.1	145.0	142.2
72.5°	288.6	267.8	247.1	226.3	205.5	187.4	172.1	156.7	141.3	126.0	123.6
75°	229.9	210.4	191.0	171.6	152.1	137.7	128.2	118.9	109.4	100.0	98.0
77.5°	172.2	155.2	138.1	121.1	104.0	93.2	88.6	84.1	79.5	75.0	73.9
80°	136.2	122.1	107.9	93.7	79.6	71.1	68.3	65.6	62.8	60.0	58.9
82.5°	103.2	92.1	81.1	70.0	59.0	52.5	50.6	48.8	46.9	45.0	44.4
85°	53.7	47.9	42.1	36.2	30.4	27.1	26.3	25.4	24.5	23.7	23.7
87.5°	16.1	14.8	13.5	12.1	10.8	10.5	11.3	12.1	12.9	13.7	13.4
90°	0.8	3.0	5.1	7.3	9.5	12.6	16.6	20.5	24.5	28.5	28.1
92.5°	14.5	16.1	17.7	19.2	20.9	22.1	23.1	24.0	24.9	25.8	25.9
95°	42.3	44.1	45.9	47.7	49.6	50.6	51.0	51.4	51.7	52.1	52.1
97.5°	77.3	78.9	80.5	82.1	83.6	84.8	85.5	86.2	86.8	87.6	87.6
100°	103.3	104.8	106.2	107.7	109.1	110.1	110.6	111.2	111.8	112.3	112.3
102.5°	130.7	131.8	133.0	134.1	135.3	136.2	136.9	137.6	138.3	139.0	139.1
105°	175.0	175.5	176.0	176.6	177.1	177.6	177.9	178.3	178.6	179.0	179.4
107.5°	219.5	220.3	221.1	221.9	222.7	223.1	223.1	223.1	223.1	223.1	223.2
110°	248.2	249.2	250.3	251.4	252.5	253.1	253.1	253.1	253.1	253.1	253.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	279.4	280.5	281.6	282.7	283.7	284.2	284.1	283.9	283.8	283.6	283.2
115°	325.5	326.5	327.6	328.7	329.8	330.1	329.8	329.5	329.1	328.7	328.6
117.5°	371.4	372.8	374.2	375.7	377.2	377.3	376.3	375.3	374.3	373.3	372.8
120°	401.9	403.4	404.8	406.3	407.7	407.7	406.3	404.8	403.4	401.9	401.9
122.5°	429.9	431.6	433.4	435.1	436.8	437.2	436.2	435.2	434.2	433.2	432.8
125°	473.5	475.2	476.8	478.4	480.0	480.6	480.0	479.5	479.0	478.4	477.8
127.5°	516.0	518.0	520.2	522.2	524.2	525.0	524.3	523.7	523.0	522.4	521.7
130°	542.7	545.0	547.4	549.8	552.1	553.1	552.7	552.4	552.0	551.6	551.3
132.5°	572.7	574.5	576.5	578.4	580.3	581.3	581.4	581.5	581.5	581.6	580.8
135°	612.7	614.7	616.6	618.6	620.6	621.8	622.2	622.5	622.9	623.2	623.1
137.5°	654.8	656.4	658.0	659.7	661.3	662.3	662.8	663.3	663.8	664.2	664.1
140°	680.2	681.8	683.5	685.1	686.7	687.9	688.8	689.7	690.7	691.6	691.6
142.5°	706.2	707.8	709.5	711.1	712.7	713.9	714.4	715.1	715.7	716.3	716.5
145°	743.6	744.9	746.2	747.5	748.7	749.9	751.0	752.0	753.2	754.2	754.4
147.5°	777.0	778.5	780.1	781.5	783.1	784.2	785.0	785.6	786.4	787.1	787.5
150°	799.8	800.9	801.9	803.1	804.1	805.0	805.8	806.5	807.2	808.0	808.5
152.5°	819.9	821.1	822.1	823.2	824.3	825.3	826.1	827.0	827.9	828.8	829.5
155°	850.3	850.8	851.3	851.9	852.4	853.0	853.5	854.0	854.6	855.1	856.1
157.5°	876.1	876.4	876.9	877.2	877.6	877.9	878.2	878.6	878.9	879.2	880.4
160°	891.8	892.1	892.4	892.8	893.2	893.5	893.6	893.8	894.0	894.1	895.3
162.5°	906.0	906.1	906.2	906.3	906.4	906.4	906.7	906.9	907.0	907.2	908.4
165°	925.1	925.0	924.7	924.5	924.4	924.3	924.3	924.3	924.3	924.3	925.5
167.5°	941.0	940.5	940.0	939.4	938.9	938.6	938.6	938.5	938.5	938.4	939.7
170°	949.5	948.9	948.4	947.9	947.3	947.0	946.8	946.6	946.4	946.2	947.5
172.5°	955.4	954.8	954.3	953.7	953.2	952.8	952.7	952.4	952.3	952.1	953.4
175°	962.5	962.0	961.4	960.9	960.3	959.9	959.5	959.2	958.8	958.5	959.7
177.5°	965.5	965.0	964.6	964.2	963.7	963.4	963.0	962.8	962.5	962.2	963.0
180°	964.2	964.2	964.2	964.2	964.2	964.2	964.2	964.2	964.2	964.2	964.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6	1380.6
2.5°	1374.1	1376.3	1378.6	1379.4	1379.0	1378.6	1378.1	1377.7
5°	1363.2	1365.7	1368.2	1369.0	1368.2	1367.3	1366.5	1365.7
7.5°	1341.1	1341.8	1342.6	1342.2	1340.8	1339.3	1337.9	1336.4
10°	1319.0	1318.2	1317.4	1316.1	1314.4	1312.8	1311.1	1309.5
12.5°	1293.7	1292.2	1290.7	1288.6	1285.8	1283.0	1280.3	1277.5
15°	1246.4	1241.1	1235.8	1231.8	1229.1	1226.3	1223.5	1220.7
17.5°	1192.9	1186.7	1180.4	1174.8	1170.1	1165.3	1160.5	1155.8
20°	1155.6	1148.7	1141.7	1135.2	1129.1	1123.0	1116.9	1110.8
22.5°	1114.7	1105.7	1096.7	1090.0	1085.5	1080.9	1076.4	1071.8
25°	1046.8	1035.4	1024.0	1016.3	1012.0	1007.9	1003.7	999.6
27.5°	982.0	968.7	955.4	945.5	938.9	932.3	925.7	919.1
30°	936.3	922.1	907.9	897.2	889.7	882.2	874.7	867.2
32.5°	890.3	874.2	857.9	846.4	839.4	832.3	825.2	818.2
35°	818.4	801.0	783.4	771.6	765.5	759.4	753.3	747.2
37.5°	748.4	729.1	709.8	696.7	689.7	682.7	675.7	668.7
40°	701.5	681.8	662.1	648.7	641.4	634.1	627.0	619.7
42.5°	654.2	633.8	613.4	599.7	592.7	585.7	578.8	571.8
45°	585.3	565.6	545.8	532.7	526.0	519.3	512.7	506.1
47.5°	518.3	498.7	479.1	466.3	460.2	454.2	448.1	442.1
50°	475.2	456.1	436.9	424.4	418.6	412.7	406.9	401.0
52.5°	434.6	416.0	397.6	385.6	380.3	374.9	369.5	364.1
55°	372.8	356.1	339.4	328.5	323.2	317.9	312.7	307.4
57.5°	316.6	301.3	286.0	276.1	271.7	267.3	262.9	258.4
60°	277.8	263.7	249.5	240.2	235.7	231.3	226.8	222.4
62.5°	244.2	230.6	217.2	209.0	206.4	203.7	201.1	198.4
65°	198.5	189.1	179.6	174.5	173.7	172.8	172.0	171.2
67.5°	160.3	156.0	151.6	149.0	148.1	147.2	146.3	145.4
70°	139.4	136.6	133.9	131.9	130.8	129.6	128.6	127.4
72.5°	121.3	119.0	116.6	115.1	114.5	113.8	113.1	112.4
75°	96.0	94.2	92.2	91.1	90.8	90.5	90.3	89.9
77.5°	72.7	71.7	70.5	69.7	69.3	68.9	68.4	68.0
80°	57.7	56.7	55.5	55.0	55.0	55.0	55.0	55.0
82.5°	43.6	43.0	42.3	42.0	42.0	42.0	42.0	42.0
85°	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7
87.5°	13.1	12.8	12.5	12.4	12.4	12.5	12.5	12.6
90°	27.7	27.4	27.1	26.9	27.1	27.3	27.5	27.6
92.5°	26.0	26.1	26.2	26.3	26.3	26.3	26.3	26.3
95°	52.1	52.1	52.1	51.9	51.5	51.2	50.8	50.5
97.5°	87.6	87.6	87.6	87.6	87.5	87.5	87.4	87.4
100°	112.3	112.3	112.3	112.2	112.0	111.9	111.6	111.5
102.5°	139.3	139.4	139.6	139.5	139.3	139.2	139.0	138.8
105°	179.7	180.1	180.4	180.6	180.6	180.6	180.6	180.6
107.5°	223.4	223.6	223.6	223.3	222.5	221.7	220.9	220.0
110°	253.1	253.1	253.1	252.7	252.3	251.7	251.1	250.6



TEST NUMBER: P331757-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	282.7	282.3	281.9	281.4	281.1	280.7	280.3	279.9
115°	328.3	328.2	328.0	327.6	327.1	326.5	326.0	325.5
117.5°	372.4	372.0	371.5	371.0	370.6	370.0	369.4	368.9
120°	401.9	401.9	401.9	401.7	401.1	400.6	400.1	399.5
122.5°	432.3	431.9	431.5	431.0	430.6	430.2	429.8	429.4
125°	477.4	476.8	476.2	475.9	475.7	475.5	475.3	475.2
127.5°	521.1	520.4	519.8	519.1	518.5	518.0	517.4	516.8
130°	550.9	550.6	550.2	549.7	548.9	548.2	547.5	546.7
132.5°	580.0	579.2	578.4	577.7	577.2	576.6	576.0	575.4
135°	622.9	622.7	622.5	622.2	621.6	621.1	620.5	620.0
137.5°	664.0	663.8	663.7	663.2	662.5	661.8	661.0	660.3
140°	691.6	691.6	691.6	691.2	690.5	689.7	689.1	688.4
142.5°	716.6	716.7	716.9	716.6	715.9	715.2	714.4	713.7
145°	754.6	754.8	755.0	754.7	754.0	753.3	752.5	751.8
147.5°	787.9	788.3	788.7	788.6	787.9	787.2	786.5	785.8
150°	809.0	809.6	810.1	810.1	809.6	809.0	808.5	808.0
152.5°	830.1	830.8	831.5	831.5	830.8	830.1	829.5	828.8
155°	857.0	857.9	858.8	858.9	858.3	857.9	857.3	856.7
157.5°	881.7	882.9	884.1	884.3	883.5	882.6	881.7	880.8
160°	896.3	897.4	898.5	898.7	898.0	897.2	896.5	895.8
162.5°	909.6	910.9	912.1	912.3	911.4	910.5	909.7	908.8
165°	926.8	928.1	929.4	929.5	928.6	927.7	926.8	925.9
167.5°	940.9	942.2	943.5	943.6	942.7	941.8	940.9	939.9
170°	948.8	950.1	951.3	951.4	950.3	949.3	948.1	947.1
172.5°	954.6	955.9	957.2	957.2	956.2	955.1	954.0	952.9
175°	961.0	962.2	963.5	963.6	962.5	961.4	960.3	959.3
177.5°	963.9	964.8	965.6	965.6	964.8	963.9	963.0	962.2
180°	964.2	964.2	964.2	964.2	964.2	964.2	964.2	964.2

(END OF REPORT)