

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: P331602-940

Luminaire Tested: **S122DIW-S1005D970U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331602-940
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: S122DIW-S1005D970U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6612.8 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

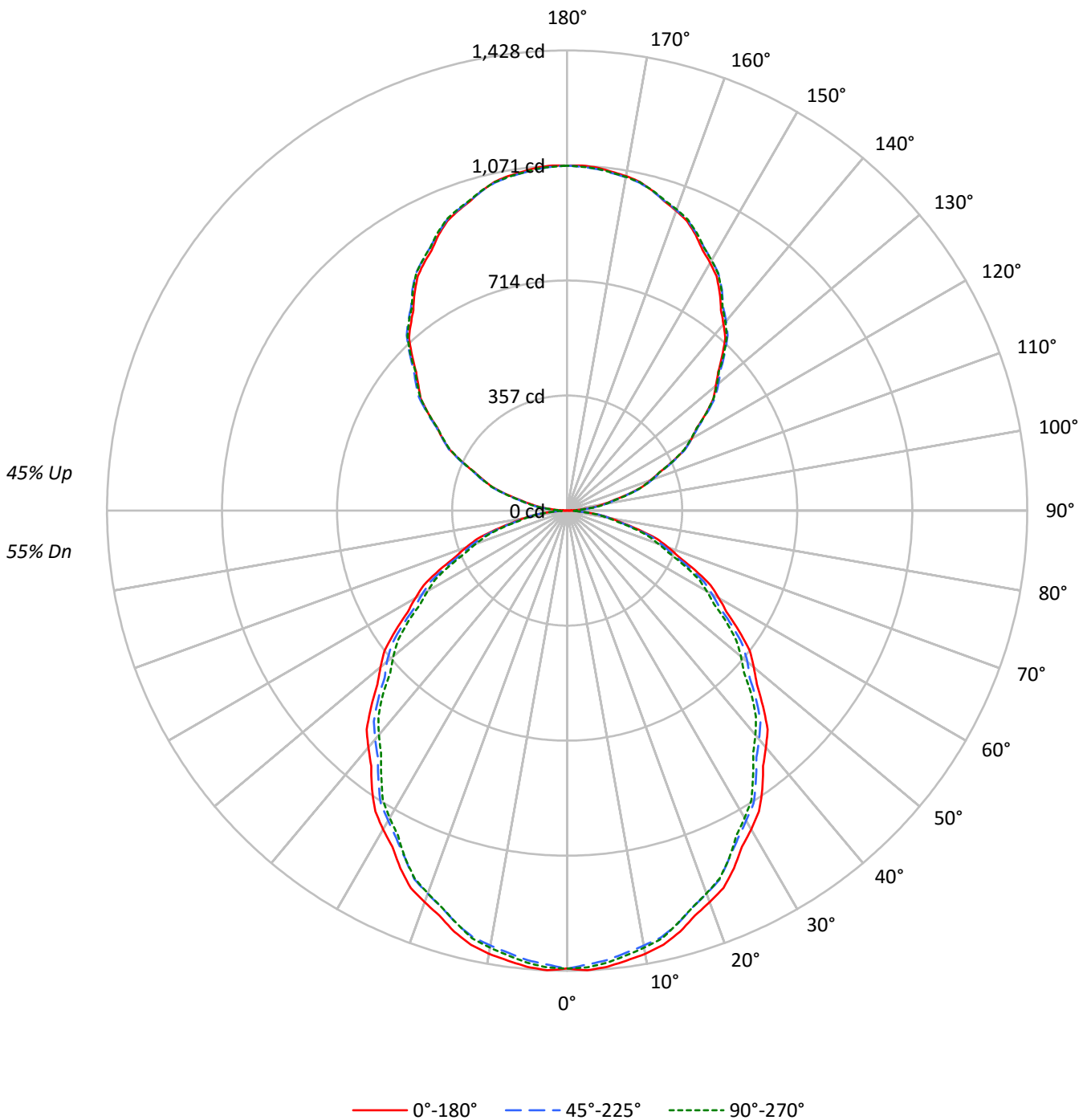
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	55
1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	53	52	51	46
2	90	83	76	71	83	77	71	67	66	62	58	56	53	51	47	45	43	39
3	82	73	65	59	76	68	61	56	58	53	49	50	46	43	42	39	37	33
4	75	64	56	50	69	60	53	47	52	46	42	44	40	37	37	34	32	28
5	69	57	49	43	64	54	46	41	46	41	36	40	35	32	34	30	28	24
6	64	51	43	37	59	48	41	35	42	36	32	36	31	28	30	27	24	21
7	59	46	38	33	54	44	36	31	38	32	28	33	28	25	28	24	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	25	22	26	22	19	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	17	15
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	18	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22946	22946	22946
5°	23034	22702	22835
10°	22897	22471	22584
15°	22614	22181	22158
20°	22213	21742	21720
25°	21814	21205	21205
30°	21300	20713	20534
35°	20820	20120	19825
40°	20219	19530	19153
45°	19628	18941	18472
50°	18982	18331	17678
55°	18311	17619	16963
60°	17563	16769	16152
65°	16756	15924	15194
70°	15739	14903	14195
75°	14323	13724	13381
80°	12710	12329	11688
85°	10374	9874	8855



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	2.0
10°-20°	376.0	5.7
20°-30°	552.7	8.4
30°-40°	642.0	9.7
40°-50°	641.3	9.7
50°-60°	559.3	8.5
60°-70°	413.6	6.3
70°-80°	234.2	3.5
80°-90°	67.3	1.0
90°-100°	67.8	1.0
100°-110°	210.6	3.2
110°-120°	360.0	5.4
120°-130°	473.5	7.2
130°-140°	531.4	8.0
140°-150°	521.1	7.9
150°-160°	437.0	6.6
160°-170°	289.9	4.4
170°-180°	101.3	1.5
0°-30°	1062.4	16.1
0°-40°	1704.4	25.8
0°-60°	2905.1	43.9
0°-90°	3620.1	54.7
90°-120°	638.5	9.7
90°-150°	2164.4	32.7
90°-180°	2993.0	45.3
0°-180°	6612.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1421	1415	1401	1411	1409	135
15°	1353	1344	1327	1332	1326	381
25°	1224	1213	1190	1193	1190	563
35°	1056	1042	1021	1013	1006	659
45°	860	849	830	815	809	663
55°	650	642	626	610	603	581
65°	439	430	417	405	398	434
75°	230	227	220	212	214	245
85°	56	55	53	49	48	64
90°	1	12	32	30	31	5
95°	47	56	58	58	56	54
105°	194	197	199	200	200	205
115°	361	366	365	364	361	357
125°	526	533	531	528	527	470
135°	680	690	692	691	688	525
145°	826	832	837	838	835	515
155°	944	946	949	953	951	434
165°	1027	1026	1026	1032	1028	289
175°	1068	1066	1064	1070	1065	101
180°	1070	1070	1070	1070	1070	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1427.8	1426.6	1425.4	1424.2	1422.9	1421.0	1418.4	1415.7	1413.0	1410.3	1412.7
5°	1421.2	1420.0	1418.8	1417.6	1416.4	1414.1	1410.8	1407.4	1404.1	1400.7	1403.2
7.5°	1408.6	1406.8	1404.9	1403.0	1401.1	1398.5	1395.1	1391.7	1388.3	1384.9	1387.3
10°	1396.6	1394.5	1392.4	1390.3	1388.1	1385.3	1381.6	1378.0	1374.3	1370.6	1373.1
12.5°	1380.3	1378.3	1376.4	1374.6	1372.7	1369.9	1366.3	1362.6	1359.1	1355.4	1357.1
15°	1352.9	1351.1	1349.2	1347.5	1345.6	1342.7	1338.8	1334.8	1330.9	1327.0	1328.2
17.5°	1317.9	1316.1	1314.3	1312.4	1310.6	1307.7	1303.7	1299.7	1295.7	1291.7	1293.1
20°	1292.8	1290.9	1289.1	1287.3	1285.5	1282.5	1278.2	1274.0	1269.7	1265.4	1266.3
22.5°	1267.7	1265.1	1262.6	1260.0	1257.4	1254.2	1250.2	1246.2	1242.2	1238.1	1238.3
25°	1224.5	1222.0	1219.6	1217.2	1214.8	1210.9	1205.8	1200.6	1195.4	1190.3	1190.9
27.5°	1175.3	1173.0	1170.9	1168.7	1166.5	1163.4	1159.3	1155.2	1151.2	1147.1	1146.2
30°	1142.5	1140.1	1137.6	1135.1	1132.7	1129.3	1124.7	1120.2	1115.6	1111.0	1110.1
32.5°	1107.5	1105.5	1103.6	1101.6	1099.7	1096.4	1091.5	1086.7	1081.9	1077.1	1075.5
35°	1056.3	1053.3	1050.3	1047.2	1044.2	1040.3	1035.4	1030.6	1025.7	1020.8	1019.0
37.5°	998.7	996.0	993.4	990.7	988.0	984.3	979.4	974.6	969.6	964.8	962.5
40°	959.3	956.9	954.5	952.1	949.6	946.0	941.1	936.3	931.4	926.6	923.8
42.5°	921.0	918.6	916.2	913.8	911.3	907.7	902.9	898.0	893.1	888.2	885.3
45°	859.6	857.5	855.3	853.2	851.0	847.7	843.2	838.7	834.1	829.5	826.2
47.5°	798.3	796.4	794.3	792.4	790.3	786.9	782.2	777.5	772.8	768.0	764.5
50°	755.7	754.2	752.7	751.2	749.7	746.7	742.5	738.2	734.0	729.8	725.5
52.5°	714.2	712.2	710.2	708.2	706.1	703.1	699.1	695.1	691.2	687.2	683.6
55°	650.5	648.6	646.8	645.1	643.2	640.4	636.9	633.2	629.5	625.9	622.2
57.5°	586.6	585.1	583.6	582.2	580.7	578.0	574.0	570.0	566.0	562.0	558.4
60°	543.9	542.7	541.4	540.3	539.0	536.3	532.1	527.8	523.5	519.3	515.9
62.5°	502.4	500.4	498.5	496.5	494.5	492.0	488.7	485.4	482.1	478.8	475.7
65°	438.6	436.8	435.1	433.2	431.4	428.9	425.9	422.8	419.8	416.8	414.1
67.5°	373.9	372.5	371.0	369.5	368.1	366.0	363.2	360.5	357.8	355.1	352.9
70°	333.4	332.3	331.0	329.8	328.6	326.6	323.9	321.1	318.4	315.7	313.5
72.5°	291.9	290.7	289.4	288.3	287.0	285.5	283.8	282.0	280.3	278.5	276.3
75°	229.6	229.0	228.4	227.7	227.1	226.0	224.5	223.0	221.5	220.0	218.2
77.5°	173.8	172.8	171.7	170.8	169.7	168.9	168.3	167.6	167.0	166.5	165.5
80°	136.7	136.3	136.1	135.7	135.5	135.0	134.4	133.8	133.1	132.6	131.6
82.5°	101.7	101.7	101.6	101.5	101.4	101.2	100.9	100.5	100.1	99.8	98.6
85°	56.0	55.7	55.5	55.1	54.8	54.5	54.2	53.9	53.6	53.3	52.3
87.5°	19.9	19.9	19.9	19.9	19.9	20.1	20.4	20.9	21.2	21.7	20.8
90°	0.9	3.3	5.7	8.1	10.5	13.9	18.4	22.7	27.2	31.6	31.2
92.5°	16.1	17.8	19.6	21.4	23.2	24.5	25.6	26.7	27.6	28.7	28.8
95°	47.0	49.0	51.0	53.0	55.0	56.2	56.6	57.0	57.4	57.8	57.8
97.5°	85.8	87.6	89.3	91.1	92.8	94.2	94.9	95.7	96.4	97.2	97.2
100°	114.7	116.3	117.9	119.5	121.1	122.3	122.8	123.4	124.0	124.7	124.7
102.5°	145.1	146.3	147.6	148.9	150.2	151.2	151.9	152.8	153.5	154.3	154.4
105°	194.2	194.7	195.4	196.0	196.6	197.1	197.5	197.9	198.3	198.7	199.1
107.5°	243.7	244.6	245.4	246.3	247.2	247.6	247.6	247.6	247.6	247.6	247.8
110°	275.4	276.7	277.9	279.1	280.3	280.9	280.9	280.9	280.9	280.9	280.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	310.1	311.4	312.5	313.8	315.0	315.5	315.3	315.1	315.0	314.9	314.3
115°	361.2	362.5	363.6	364.9	366.0	366.5	366.0	365.7	365.2	364.9	364.7
117.5°	412.2	413.8	415.4	417.1	418.7	418.8	417.8	416.6	415.5	414.4	413.9
120°	446.2	447.8	449.4	451.0	452.6	452.6	451.0	449.4	447.8	446.2	446.2
122.5°	477.2	479.2	481.1	483.0	484.9	485.4	484.2	483.1	482.0	480.8	480.4
125°	525.7	527.4	529.2	531.1	532.9	533.5	532.9	532.3	531.6	531.1	530.5
127.5°	572.8	575.1	577.4	579.7	581.9	582.7	582.0	581.3	580.6	579.9	579.1
130°	602.4	605.0	607.6	610.3	612.9	613.9	613.6	613.1	612.8	612.3	612.0
132.5°	635.6	637.8	639.9	642.0	644.2	645.2	645.3	645.4	645.5	645.6	644.7
135°	680.1	682.3	684.5	686.7	688.9	690.2	690.6	691.0	691.4	691.8	691.6
137.5°	726.8	728.7	730.5	732.3	734.1	735.3	735.8	736.3	736.8	737.4	737.2
140°	755.0	756.9	758.7	760.5	762.2	763.7	764.7	765.7	766.7	767.7	767.7
142.5°	784.0	785.8	787.6	789.3	791.2	792.5	793.1	793.8	794.5	795.1	795.3
145°	825.5	826.9	828.3	829.7	831.2	832.4	833.7	834.8	836.1	837.2	837.4
147.5°	862.6	864.2	865.9	867.5	869.2	870.5	871.3	872.1	872.9	873.7	874.1
150°	887.8	889.0	890.2	891.4	892.6	893.7	894.5	895.3	896.1	896.9	897.4
152.5°	910.3	911.4	912.7	913.8	915.1	916.1	917.1	918.0	919.0	920.0	920.7
155°	943.8	944.4	945.0	945.7	946.2	946.8	947.4	948.1	948.6	949.2	950.2
157.5°	972.5	972.9	973.3	973.7	974.1	974.6	974.9	975.3	975.6	976.0	977.3
160°	989.9	990.2	990.7	991.0	991.5	991.8	992.0	992.2	992.4	992.6	993.8
162.5°	1005.8	1005.8	1005.9	1006.0	1006.1	1006.2	1006.5	1006.7	1006.8	1007.0	1008.4
165°	1026.9	1026.7	1026.5	1026.3	1026.1	1026.0	1026.0	1026.0	1026.0	1026.0	1027.4
167.5°	1044.6	1044.0	1043.4	1042.8	1042.2	1041.9	1041.9	1041.8	1041.8	1041.7	1043.1
170°	1054.0	1053.4	1052.8	1052.2	1051.6	1051.2	1051.0	1050.8	1050.6	1050.4	1051.8
172.5°	1060.5	1059.9	1059.3	1058.7	1058.1	1057.7	1057.5	1057.3	1057.1	1056.9	1058.3
175°	1068.4	1067.8	1067.3	1066.7	1066.0	1065.5	1065.1	1064.7	1064.3	1063.9	1065.3
177.5°	1071.7	1071.2	1070.8	1070.2	1069.8	1069.3	1069.1	1068.7	1068.4	1068.1	1069.1
180°	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2	1421.2
2.5°	1415.1	1417.6	1420.0	1421.0	1420.5	1420.0	1419.5	1419.1
5°	1405.6	1408.0	1410.4	1411.4	1410.8	1410.2	1409.5	1408.9
7.5°	1389.7	1392.1	1394.6	1395.5	1394.8	1394.2	1393.5	1392.9
10°	1375.6	1378.0	1380.4	1381.2	1380.3	1379.3	1378.4	1377.5
12.5°	1358.8	1360.5	1362.2	1362.7	1362.0	1361.4	1360.7	1360.0
15°	1329.4	1330.6	1331.8	1331.7	1330.2	1328.6	1327.1	1325.6
17.5°	1294.5	1295.9	1297.3	1297.3	1295.7	1294.3	1292.9	1291.4
20°	1267.3	1268.2	1269.1	1268.9	1267.7	1266.5	1265.3	1264.1
22.5°	1238.5	1238.7	1238.9	1238.6	1237.9	1237.2	1236.4	1235.6
25°	1191.5	1192.1	1192.8	1192.8	1192.1	1191.5	1190.9	1190.3
27.5°	1145.3	1144.3	1143.4	1142.3	1140.9	1139.3	1137.9	1136.5
30°	1109.2	1108.3	1107.4	1106.3	1105.1	1103.8	1102.7	1101.4
32.5°	1073.9	1072.2	1070.6	1069.2	1067.9	1066.8	1065.5	1064.3
35°	1017.2	1015.4	1013.5	1011.9	1010.4	1008.9	1007.3	1005.8
37.5°	960.3	958.1	955.8	954.0	952.5	951.0	949.6	948.2
40°	921.0	918.4	915.6	913.6	912.4	911.2	910.0	908.7
42.5°	882.3	879.3	876.4	874.1	872.4	870.7	869.0	867.2
45°	822.9	819.5	816.2	813.9	812.6	811.5	810.2	809.0
47.5°	761.0	757.4	753.9	751.3	749.5	747.8	746.0	744.2
50°	721.2	717.0	712.7	709.9	708.4	706.9	705.3	703.8
52.5°	680.1	676.5	673.1	670.3	668.2	666.3	664.2	662.3
55°	618.6	614.9	611.4	608.8	607.3	605.7	604.2	602.6
57.5°	554.7	551.2	547.6	545.2	544.1	543.0	541.8	540.6
60°	512.6	509.3	506.0	503.8	502.9	502.0	501.1	500.2
62.5°	472.7	469.6	466.5	464.3	463.2	462.0	460.8	459.7
65°	411.3	408.6	405.9	403.8	402.3	400.7	399.2	397.7
67.5°	350.8	348.7	346.5	344.8	343.7	342.4	341.3	340.0
70°	311.4	309.3	307.2	305.5	304.3	303.1	301.8	300.7
72.5°	274.3	272.2	270.0	268.5	267.5	266.5	265.6	264.6
75°	216.4	214.5	212.8	212.1	212.8	213.3	213.9	214.5
77.5°	164.6	163.7	162.8	161.9	161.0	160.2	159.3	158.5
80°	130.7	129.8	128.9	128.1	127.5	127.0	126.4	125.7
82.5°	97.5	96.3	95.1	94.5	94.3	94.3	94.2	94.0
85°	51.5	50.6	49.7	49.0	48.8	48.4	48.2	47.8
87.5°	20.0	19.2	18.4	17.9	17.7	17.5	17.3	17.0
90°	30.8	30.4	30.0	29.9	30.1	30.3	30.5	30.7
92.5°	28.9	29.0	29.1	29.1	29.2	29.2	29.2	29.2
95°	57.8	57.8	57.8	57.6	57.2	56.8	56.4	56.0
97.5°	97.2	97.2	97.2	97.2	97.1	97.1	97.0	97.0
100°	124.7	124.7	124.7	124.6	124.3	124.1	123.9	123.8
102.5°	154.6	154.7	154.9	154.9	154.7	154.4	154.3	154.1
105°	199.5	199.9	200.3	200.5	200.5	200.5	200.5	200.5
107.5°	248.0	248.2	248.3	247.9	247.0	246.0	245.1	244.2
110°	280.9	280.9	280.9	280.6	280.0	279.4	278.7	278.2



TEST NUMBER: P331602-940

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.9	313.4	312.9	312.5	312.0	311.6	311.1	310.7
115°	364.4	364.3	364.1	363.6	363.1	362.5	361.9	361.2
117.5°	413.4	413.0	412.4	411.9	411.3	410.7	410.1	409.5
120°	446.2	446.2	446.2	445.9	445.2	444.7	444.1	443.4
122.5°	479.9	479.4	478.9	478.5	478.0	477.6	477.2	476.7
125°	529.9	529.2	528.7	528.2	528.1	527.9	527.6	527.4
127.5°	578.4	577.7	576.9	576.2	575.6	575.0	574.4	573.7
130°	611.5	611.2	610.7	610.1	609.3	608.5	607.7	606.9
132.5°	643.8	642.9	642.0	641.3	640.7	640.0	639.4	638.7
135°	691.4	691.3	691.0	690.6	690.0	689.4	688.8	688.2
137.5°	737.0	736.9	736.7	736.2	735.4	734.6	733.8	733.0
140°	767.7	767.7	767.7	767.3	766.5	765.7	764.9	764.1
142.5°	795.5	795.7	795.8	795.5	794.7	793.9	793.1	792.3
145°	837.7	837.9	838.0	837.8	837.0	836.2	835.4	834.6
147.5°	874.6	875.0	875.5	875.3	874.6	873.8	873.1	872.3
150°	898.0	898.7	899.3	899.3	898.7	898.0	897.4	896.9
152.5°	921.5	922.3	923.0	923.0	922.3	921.5	920.7	920.0
155°	951.3	952.3	953.2	953.4	952.9	952.3	951.6	951.0
157.5°	978.7	980.1	981.4	981.6	980.7	979.7	978.7	977.8
160°	995.0	996.2	997.4	997.6	996.8	996.0	995.2	994.4
162.5°	1009.8	1011.1	1012.5	1012.7	1011.7	1010.8	1009.8	1008.9
165°	1028.9	1030.2	1031.6	1031.8	1030.8	1029.8	1028.9	1027.8
167.5°	1044.6	1046.0	1047.3	1047.5	1046.5	1045.4	1044.4	1043.4
170°	1053.2	1054.6	1056.1	1056.1	1054.9	1053.7	1052.5	1051.3
172.5°	1059.7	1061.1	1062.5	1062.7	1061.4	1060.2	1059.0	1057.8
175°	1066.8	1068.2	1069.5	1069.7	1068.4	1067.3	1066.0	1064.9
177.5°	1070.1	1070.9	1071.9	1071.9	1070.9	1070.1	1069.1	1068.1
180°	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2	1070.2

(END OF REPORT)