

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: P332207

Luminaire Tested: **S123DIW-S1000D1535U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332207
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S1000D1535U835-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9522.9 lumens
Efficiency: N/A
Efficacy: 124.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

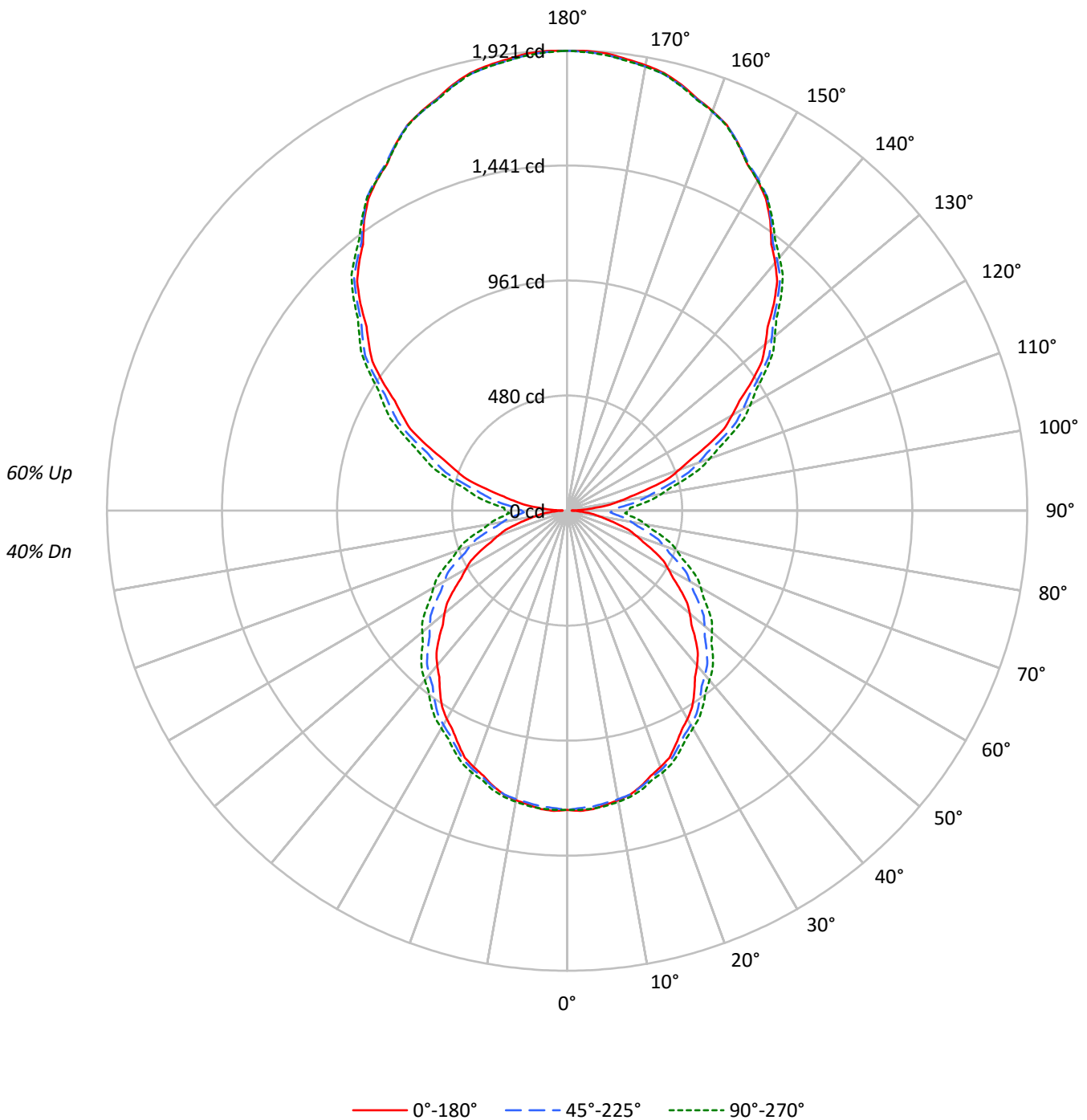
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	47	47	47	40																				
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32																				
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26																				
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22																				
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19																				
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16																				
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14																				
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12																				
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11																				
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10																				
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13448	13448	13448
5°	13490	13110	13117
10°	13370	12808	12744
15°	13197	12465	12336
20°	12951	12074	11888
25°	12647	11623	11416
30°	12335	11217	10938
35°	11987	10789	10556
40°	11653	10399	10147
45°	11284	10024	9821
50°	10920	9654	9461
55°	10517	9275	9136
60°	10125	8890	8804
65°	9723	8481	8409
70°	9115	8019	8005
75°	8351	7490	7593
80°	7467	6971	7122
85°	6653	6616	6850



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.4	1.2
10°-20°	337.6	3.5
20°-30°	505.0	5.3
30°-40°	603.1	6.3
40°-50°	631.0	6.6
50°-60°	592.1	6.2
60°-70°	494.5	5.2
70°-80°	353.8	3.7
80°-90°	216.7	2.3
90°-100°	257.5	2.7
100°-110°	471.6	5.0
110°-120°	701.6	7.4
120°-130°	874.5	9.2
130°-140°	957.9	10.1
140°-150°	928.7	9.8
150°-160°	778.9	8.2
160°-170°	518.5	5.4
170°-180°	181.6	1.9
0°-30°	961.1	10.1
0°-40°	1564.1	16.4
0°-60°	2787.2	29.3
0°-90°	3852.3	40.5
90°-120°	1430.6	15.0
90°-150°	4191.7	44.0
90°-180°	5671.0	59.6
0°-180°	9522.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1249	1249	1249	1249	1249	
5°	1251	1248	1240	1250	1249	119
15°	1191	1195	1194	1206	1206	335
25°	1075	1088	1093	1110	1111	495
35°	926	947	965	985	991	579
45°	757	790	823	848	860	583
55°	577	622	671	706	719	517
65°	399	452	512	551	566	394
75°	216	281	348	392	410	231
85°	67	135	207	251	267	70
90°	19	101	190	240	259	18
95°	104	168	246	293	308	112
105°	350	388	458	495	511	374
115°	648	670	714	747	758	641
125°	942	948	983	1004	1009	840
135°	1220	1228	1241	1258	1263	940
145°	1478	1479	1484	1493	1493	922
155°	1690	1690	1692	1697	1687	778
165°	1841	1837	1837	1845	1835	519
175°	1915	1909	1909	1917	1908	182
180°	1920	1920	1920	1920	1920	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4
2.5°	1254.9	1254.2	1253.4	1252.7	1252.0	1250.6	1248.7	1246.8	1244.8	1242.9	1244.8
5°	1250.8	1250.2	1249.6	1249.0	1248.4	1247.2	1245.4	1243.5	1241.7	1239.9	1242.3
7.5°	1238.5	1238.7	1238.8	1238.9	1239.0	1238.2	1236.5	1234.7	1232.9	1231.2	1234.2
10°	1227.7	1228.3	1228.9	1229.5	1230.1	1229.6	1228.1	1226.6	1225.1	1223.6	1226.6
12.5°	1214.6	1215.4	1216.3	1217.1	1218.0	1217.9	1216.9	1215.8	1214.8	1213.8	1216.6
15°	1190.9	1191.8	1192.7	1193.6	1194.5	1194.8	1194.5	1194.2	1193.9	1193.6	1196.7
17.5°	1161.0	1162.8	1164.6	1166.4	1168.2	1169.1	1169.0	1168.8	1168.7	1168.6	1171.3
20°	1139.2	1141.0	1142.8	1144.6	1146.4	1147.7	1148.3	1148.9	1149.5	1150.1	1152.8
22.5°	1116.3	1118.1	1120.0	1121.8	1123.6	1124.9	1125.8	1126.6	1127.5	1128.3	1131.7
25°	1075.2	1078.2	1081.3	1084.3	1087.3	1089.3	1090.2	1091.1	1092.0	1092.9	1096.8
27.5°	1033.8	1037.3	1040.7	1044.2	1047.6	1050.3	1052.3	1054.2	1056.1	1058.1	1061.5
30°	1004.4	1008.4	1012.3	1016.2	1020.2	1023.3	1025.8	1028.2	1030.6	1033.0	1036.7
32.5°	971.8	976.2	980.6	985.0	989.4	993.2	996.4	999.5	1002.7	1005.8	1009.7
35°	925.5	930.3	935.2	940.0	944.9	949.2	953.2	957.1	961.0	965.0	969.5
37.5°	876.5	882.0	887.4	892.8	898.3	903.4	908.3	913.1	917.9	922.8	927.9
40°	843.8	849.3	854.7	860.2	865.6	871.4	877.4	883.5	889.5	895.6	900.7
42.5°	807.9	814.6	821.2	827.9	834.5	841.0	847.3	853.6	859.9	866.2	871.8
45°	756.7	764.0	771.3	778.5	785.8	793.2	800.7	808.3	815.9	823.4	829.2
47.5°	703.1	711.3	719.6	727.8	736.0	744.5	753.1	761.8	770.4	779.1	785.5
50°	668.3	676.7	685.2	693.7	702.1	711.1	720.4	729.8	739.2	748.6	755.5
52.5°	631.2	640.2	649.2	658.1	667.1	676.7	687.1	697.4	707.7	718.1	725.3
55°	577.1	587.1	597.0	607.0	617.0	627.4	638.3	649.2	660.1	671.0	679.2
57.5°	524.3	534.7	545.1	555.5	565.9	577.1	589.0	600.9	612.8	624.7	632.9
60°	487.3	498.1	509.0	519.9	530.8	542.4	554.8	567.3	579.7	592.1	600.5
62.5°	452.4	463.5	474.7	485.8	496.9	509.1	522.2	535.3	548.4	561.6	570.0
65°	398.8	410.6	422.4	434.2	446.0	458.5	471.8	485.1	498.4	511.8	520.8
67.5°	344.3	356.9	369.4	381.9	394.4	407.5	421.0	434.6	448.1	461.7	471.6
70°	306.2	319.2	332.2	345.3	358.3	372.0	386.5	401.1	415.6	430.1	439.8
72.5°	271.4	284.4	297.4	310.4	323.4	337.4	352.4	367.4	382.4	397.4	407.3
75°	216.4	230.6	244.8	259.1	273.3	287.9	303.1	318.2	333.3	348.4	358.4
77.5°	168.5	182.8	197.2	211.5	225.8	240.6	255.9	271.1	286.4	301.6	312.1
80°	134.7	149.6	164.4	179.2	194.0	209.3	225.0	240.8	256.5	272.2	282.5
82.5°	105.3	120.4	135.5	150.5	165.6	181.1	197.1	213.0	229.0	245.0	255.3
85°	66.7	81.8	96.9	112.1	127.2	142.8	158.8	174.8	190.8	206.9	217.2
87.5°	36.5	52.2	68.0	83.7	99.4	115.4	131.7	148.0	164.3	180.6	191.2
90°	19.2	37.4	55.5	73.7	91.9	110.9	130.6	150.4	170.2	190.0	201.6
92.5°	53.1	68.7	84.4	100.0	115.7	132.3	150.0	167.7	185.3	203.0	214.1
95°	103.9	118.1	132.2	146.4	160.5	176.3	193.8	211.3	228.8	246.3	257.0
97.5°	171.4	183.8	196.1	208.5	220.9	235.2	251.3	267.4	283.5	299.6	310.1
100°	217.3	229.0	240.7	252.4	264.1	277.7	293.3	308.9	324.5	340.1	349.9
102.5°	270.5	280.4	290.4	300.3	310.2	323.1	339.0	354.9	370.7	386.6	396.2
105°	350.2	358.1	366.0	374.0	381.9	393.9	409.9	425.9	441.9	458.0	466.4
107.5°	441.4	448.0	454.6	461.1	467.7	477.8	491.3	504.9	518.4	532.0	541.1
110°	498.2	504.4	510.5	516.6	522.7	532.1	544.9	557.7	570.5	583.2	592.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	558.6	563.4	568.3	573.2	578.1	586.4	598.1	609.9	621.6	633.4	642.6
115°	647.7	652.3	657.0	661.6	666.2	673.6	683.9	694.1	704.3	714.5	722.1
117.5°	738.5	741.4	744.3	747.2	750.1	756.3	765.6	775.0	784.3	793.7	800.8
120°	794.1	797.6	801.1	804.7	808.2	814.1	822.4	830.7	839.0	847.3	853.9
122.5°	853.2	855.5	857.7	860.0	862.3	867.7	876.3	884.9	893.6	902.2	908.0
125°	942.0	943.0	944.0	945.0	946.0	950.6	958.7	966.8	974.9	983.0	988.0
127.5°	1025.3	1027.1	1028.9	1030.8	1032.6	1036.8	1043.3	1049.9	1056.4	1062.9	1067.0
130°	1080.8	1083.1	1085.5	1087.9	1090.3	1094.0	1099.0	1104.1	1109.1	1114.2	1118.6
132.5°	1135.2	1137.8	1140.4	1143.0	1145.6	1149.0	1153.1	1157.2	1161.3	1165.4	1169.3
135°	1219.6	1221.3	1223.1	1224.8	1226.5	1228.8	1231.8	1234.8	1237.8	1240.8	1244.9
137.5°	1297.8	1299.2	1300.6	1302.1	1303.5	1305.6	1308.3	1311.1	1313.8	1316.6	1320.0
140°	1351.0	1352.6	1354.3	1356.0	1357.7	1359.1	1360.4	1361.6	1362.9	1364.1	1368.3
142.5°	1400.4	1401.9	1403.3	1404.7	1406.2	1407.3	1408.1	1408.8	1409.6	1410.4	1414.1
145°	1477.6	1478.0	1478.4	1478.7	1479.1	1479.8	1480.8	1481.8	1482.8	1483.8	1485.9
147.5°	1543.8	1545.0	1546.2	1547.5	1548.7	1549.7	1550.7	1551.6	1552.5	1553.5	1554.2
150°	1590.9	1591.6	1592.2	1592.9	1593.6	1594.2	1594.9	1595.6	1596.2	1596.9	1596.9
152.5°	1629.5	1630.4	1631.4	1632.3	1633.2	1633.9	1634.3	1634.7	1635.1	1635.5	1636.1
155°	1690.4	1690.4	1690.4	1690.4	1690.4	1690.6	1690.9	1691.2	1691.6	1691.9	1693.3
157.5°	1742.3	1741.9	1741.5	1741.1	1740.7	1740.6	1740.9	1741.1	1741.4	1741.7	1743.1
160°	1774.9	1774.2	1773.5	1772.8	1772.2	1771.8	1771.8	1771.8	1771.8	1771.8	1773.5
162.5°	1803.8	1802.9	1801.9	1801.0	1800.1	1799.7	1800.0	1800.3	1800.5	1800.8	1802.5
165°	1841.2	1840.2	1839.2	1838.2	1837.2	1836.7	1836.7	1836.7	1836.7	1836.7	1838.7
167.5°	1871.1	1869.7	1868.4	1867.0	1865.7	1865.2	1865.4	1865.7	1866.0	1866.2	1868.3
170°	1887.9	1886.6	1885.3	1883.9	1882.6	1881.9	1881.9	1881.9	1881.9	1881.9	1884.3
172.5°	1901.2	1899.9	1898.5	1897.2	1895.9	1895.2	1895.2	1895.2	1895.2	1895.2	1897.3
175°	1915.1	1913.8	1912.4	1911.1	1909.7	1909.1	1909.1	1909.1	1909.1	1909.1	1911.1
177.5°	1920.8	1919.8	1918.7	1917.6	1916.5	1916.0	1916.0	1916.0	1916.0	1916.0	1917.6
180°	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4	1249.4
2.5°	1246.8	1248.7	1250.6	1251.5	1251.2	1251.0	1250.8	1250.5
5°	1244.7	1247.2	1249.6	1250.6	1250.3	1250.0	1249.7	1249.4
7.5°	1237.2	1240.3	1243.3	1244.6	1244.3	1243.9	1243.5	1243.2
10°	1229.6	1232.6	1235.7	1236.9	1236.3	1235.7	1235.1	1234.5
12.5°	1219.3	1222.1	1224.9	1226.0	1225.4	1224.8	1224.2	1223.6
15°	1199.7	1202.7	1205.7	1207.1	1206.8	1206.5	1206.2	1205.9
17.5°	1174.0	1176.8	1179.5	1180.6	1180.2	1179.8	1179.4	1178.9
20°	1155.5	1158.2	1161.0	1162.5	1162.8	1163.1	1163.4	1163.7
22.5°	1135.2	1138.6	1142.1	1143.7	1143.5	1143.4	1143.2	1143.0
25°	1100.8	1104.7	1108.6	1110.6	1110.6	1110.6	1110.6	1110.6
27.5°	1064.8	1068.2	1071.6	1073.4	1073.7	1073.9	1074.2	1074.4
30°	1040.3	1043.9	1047.5	1049.4	1049.4	1049.4	1049.4	1049.4
32.5°	1013.6	1017.4	1021.3	1023.6	1024.3	1025.0	1025.8	1026.5
35°	974.0	978.6	983.1	986.0	987.2	988.4	989.6	990.8
37.5°	933.1	938.2	943.4	946.4	947.4	948.3	949.3	950.3
40°	905.8	911.0	916.1	919.3	920.5	921.7	922.9	924.1
42.5°	877.4	883.0	888.7	892.3	894.0	895.7	897.4	899.1
45°	834.9	840.7	846.4	850.5	852.9	855.3	857.8	860.2
47.5°	792.0	798.5	804.9	809.1	811.0	812.9	814.7	816.6
50°	762.5	769.4	776.4	780.9	783.1	785.2	787.3	789.4
52.5°	732.5	739.7	746.9	751.8	754.4	757.0	759.6	762.2
55°	687.3	695.5	703.7	708.9	711.4	713.8	716.2	718.6
57.5°	641.2	649.4	657.6	663.2	666.0	668.8	671.7	674.5
60°	609.0	617.5	625.9	631.8	635.2	638.5	641.8	645.1
62.5°	578.5	587.0	595.4	601.2	604.3	607.4	610.5	613.6
65°	529.9	539.0	548.0	554.1	557.1	560.1	563.2	566.2
67.5°	481.5	491.4	501.3	507.6	510.1	512.7	515.2	517.7
70°	449.4	459.1	468.8	475.2	478.2	481.2	484.2	487.3
72.5°	417.3	427.2	437.1	443.6	446.6	449.6	452.7	455.7
75°	368.4	378.4	388.3	395.2	398.8	402.4	406.0	409.7
77.5°	322.7	333.2	343.7	350.4	353.1	355.9	358.7	361.5
80°	292.8	303.1	313.3	320.0	323.0	326.0	329.1	332.1
82.5°	265.6	275.8	286.1	292.8	295.8	298.8	301.8	304.9
85°	227.4	237.7	248.0	254.7	257.7	260.7	263.7	266.8
87.5°	201.7	212.3	222.8	229.7	232.9	236.0	239.2	242.3
90°	213.2	224.9	236.5	244.1	247.8	251.5	255.2	258.9
92.5°	225.2	236.3	247.4	254.2	256.6	259.0	261.3	263.7
95°	267.8	278.5	289.2	296.1	299.1	302.1	305.1	308.2
97.5°	320.7	331.2	341.8	348.5	351.4	354.3	357.2	360.1
100°	359.6	369.4	379.2	385.9	389.6	393.3	397.0	400.7
102.5°	405.7	415.2	424.8	431.0	433.9	436.8	439.6	442.5
105°	474.9	483.4	491.8	497.8	501.2	504.5	507.9	511.3
107.5°	550.3	559.5	568.7	574.4	576.7	578.9	581.2	583.4
110°	601.6	610.8	620.0	625.5	627.3	629.0	630.8	632.5



TEST NUMBER: P332207

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	651.8	661.1	670.3	676.2	678.7	681.2	683.8	686.3
115°	729.7	737.3	744.9	749.7	751.8	753.9	756.0	758.1
117.5°	807.9	815.1	822.2	826.5	827.9	829.3	830.7	832.1
120°	860.6	867.2	873.8	877.8	879.3	880.7	882.2	883.6
122.5°	913.9	919.7	925.6	929.1	930.3	931.4	932.6	933.8
125°	993.0	998.0	1003.0	1005.9	1006.7	1007.5	1008.3	1009.0
127.5°	1071.1	1075.2	1079.3	1081.7	1082.2	1082.7	1083.2	1083.7
130°	1123.0	1127.4	1131.8	1133.7	1133.2	1132.7	1132.1	1131.6
132.5°	1173.2	1177.1	1181.0	1183.1	1183.3	1183.6	1183.8	1184.1
135°	1249.0	1253.1	1257.2	1259.7	1260.5	1261.4	1262.2	1263.0
137.5°	1323.3	1326.7	1330.1	1331.9	1332.1	1332.4	1332.6	1332.8
140°	1372.5	1376.7	1380.9	1382.6	1381.8	1380.9	1380.1	1379.3
142.5°	1417.9	1421.6	1425.3	1427.0	1426.7	1426.4	1426.1	1425.8
145°	1488.0	1490.1	1492.2	1493.1	1493.0	1492.9	1492.7	1492.6
147.5°	1554.9	1555.7	1556.4	1556.3	1555.4	1554.4	1553.5	1552.6
150°	1596.9	1596.9	1596.9	1596.2	1594.8	1593.4	1592.0	1590.6
152.5°	1636.6	1637.1	1637.7	1637.1	1635.5	1633.9	1632.3	1630.6
155°	1694.6	1695.9	1697.3	1696.8	1694.4	1692.1	1689.7	1687.4
157.5°	1744.5	1745.9	1747.3	1747.1	1745.2	1743.3	1741.4	1739.6
160°	1775.2	1776.9	1778.5	1778.7	1777.4	1776.0	1774.7	1773.3
162.5°	1804.1	1805.8	1807.5	1807.3	1805.1	1803.0	1800.8	1798.7
165°	1840.7	1842.7	1844.7	1844.6	1842.2	1839.9	1837.5	1835.2
167.5°	1870.4	1872.5	1874.5	1874.5	1872.5	1870.4	1868.3	1866.2
170°	1886.6	1889.0	1891.3	1891.3	1889.0	1886.6	1884.3	1881.9
172.5°	1899.3	1901.4	1903.5	1903.4	1901.0	1898.7	1896.3	1894.0
175°	1913.1	1915.1	1917.1	1916.9	1914.6	1912.2	1909.9	1907.6
177.5°	1919.2	1920.8	1922.4	1922.3	1920.4	1918.5	1916.7	1914.8
180°	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6	1919.6

(END OF REPORT)