

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: P331399

Luminaire Tested: **SA2XXDIP-C865D725U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331399
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D725U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

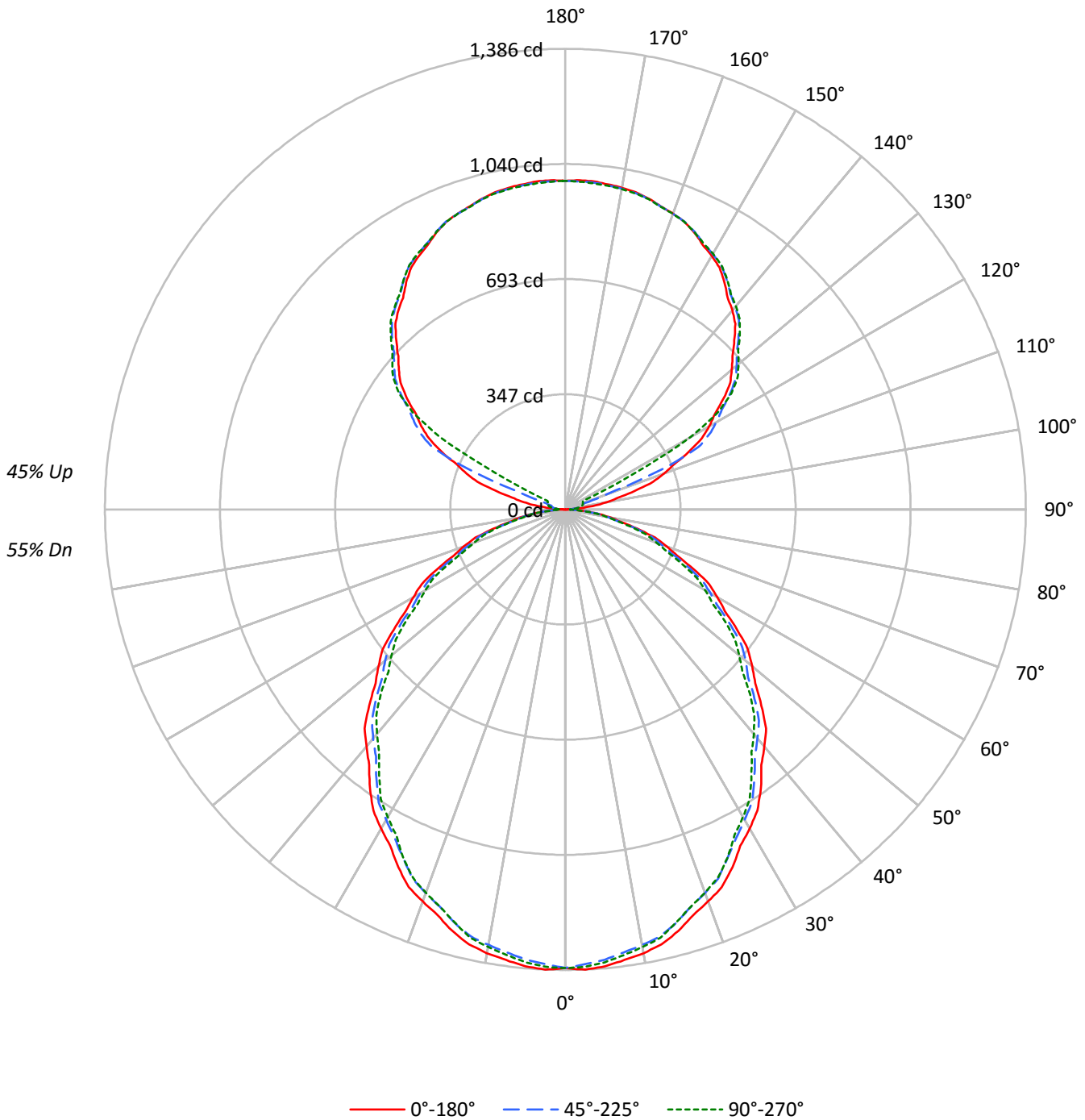
Lumens per Lamp: N/A
Luminaire Lumens: 6410.5 lumens
Efficiency: N/A
Efficacy: 117.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 54.4
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	50	30	10	0	
RCR																						
0	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55				
1	99	94	91	87	92	88	84	81	75	73	71	64	62	61	54	52	51	46				
2	90	83	76	71	83	77	71	67	66	62	59	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	31	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°	22281	22281	22281
5°	22366	22044	22174
10°	22233	21820	21930
15°	21959	21538	21514
20°	21569	21113	21089
25°	21180	20591	20591
30°	20681	20113	19939
35°	20217	19537	19249
40°	19633	18963	18598
45°	19057	18393	17938
50°	18432	17799	17166
55°	17779	17106	16473
60°	17053	16281	15684
65°	16275	15461	14751
70°	15286	14469	13780
75°	13905	13325	12994
80°	12338	11967	11353
85°	10078	9596	8596



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.8	2.0
10°-20°	365.1	5.7
20°-30°	536.7	8.4
30°-40°	623.4	9.7
40°-50°	622.7	9.7
50°-60°	543.1	8.5
60°-70°	401.6	6.3
70°-80°	227.4	3.5
80°-90°	63.6	1.0
90°-100°	33.0	0.5
100°-110°	120.9	1.9
110°-120°	323.3	5.0
120°-130°	533.6	8.3
130°-140°	567.5	8.9
140°-150°	527.5	8.2
150°-160°	424.1	6.6
160°-170°	273.3	4.3
170°-180°	94.1	1.5
0°-30°	1031.6	16.1
0°-40°	1655.0	25.8
0°-60°	2820.8	44.0
0°-90°	3513.4	54.8
90°-120°	477.2	7.4
90°-150°	2105.7	32.8
90°-180°	2897.0	45.2
0°-180°	6410.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1380	1380	1380	1380	1380	
5°	1380	1374	1360	1370	1368	131
15°	1314	1305	1288	1293	1287	370
25°	1189	1178	1156	1158	1156	547
35°	1026	1012	991	983	977	640
45°	835	825	806	791	786	644
55°	632	623	608	592	585	565
65°	426	418	405	393	386	421
75°	223	220	214	206	208	238
85°	54	53	52	48	46	62
90°	1	8	14	18	19	5
95°	46	24	28	31	31	57
105°	218	227	44	51	54	232
115°	411	424	441	126	59	405
125°	582	591	604	609	612	518
135°	720	731	738	744	743	556
145°	835	835	846	851	848	522
155°	919	914	921	925	920	423
165°	969	965	966	971	966	274
175°	991	986	987	992	985	94
180°	989	989	989	989	989	



TEST NUMBER: P331399

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1386.4	1385.2	1384.0	1382.9	1381.7	1379.8	1377.2	1374.6	1372.0	1369.4	1371.8
5°	1380.0	1378.8	1377.7	1376.5	1375.3	1373.1	1369.9	1366.6	1363.4	1360.1	1362.5
7.5°	1367.8	1366.0	1364.2	1362.3	1360.5	1357.9	1354.6	1351.3	1348.0	1344.7	1347.1
10°	1356.1	1354.1	1352.0	1349.9	1347.9	1345.1	1341.5	1338.0	1334.5	1330.9	1333.3
12.5°	1340.2	1338.4	1336.6	1334.7	1332.9	1330.2	1326.7	1323.1	1319.6	1316.1	1317.7
15°	1313.7	1311.9	1310.1	1308.4	1306.6	1303.8	1300.0	1296.1	1292.3	1288.5	1289.6
17.5°	1279.7	1277.9	1276.2	1274.4	1272.6	1269.8	1265.9	1262.0	1258.1	1254.2	1255.6
20°	1255.3	1253.5	1251.8	1250.0	1248.2	1245.3	1241.1	1237.0	1232.9	1228.8	1229.6
22.5°	1230.9	1228.4	1225.9	1223.4	1221.0	1217.8	1213.9	1210.0	1206.1	1202.2	1202.4
25°	1188.9	1186.6	1184.2	1181.9	1179.5	1175.8	1170.8	1165.8	1160.8	1155.8	1156.4
27.5°	1141.2	1139.1	1136.9	1134.8	1132.7	1129.6	1125.7	1121.7	1117.8	1113.8	1113.0
30°	1109.3	1107.0	1104.6	1102.3	1099.9	1096.5	1092.1	1087.7	1083.2	1078.8	1077.9
32.5°	1075.4	1073.5	1071.6	1069.7	1067.8	1064.5	1059.9	1055.2	1050.6	1045.9	1044.3
35°	1025.7	1022.8	1019.8	1016.9	1013.9	1010.1	1005.4	1000.7	995.9	991.2	989.5
37.5°	969.7	967.1	964.5	961.9	959.4	955.7	951.0	946.3	941.5	936.8	934.6
40°	931.5	929.2	926.8	924.4	922.1	918.5	913.8	909.1	904.4	899.7	897.0
42.5°	894.4	892.0	889.6	887.3	884.9	881.4	876.7	872.0	867.2	862.5	859.6
45°	834.6	832.6	830.5	828.5	826.4	823.1	818.7	814.3	809.9	805.5	802.2
47.5°	775.2	773.3	771.3	769.4	767.4	764.1	759.5	754.9	750.3	745.7	742.3
50°	733.8	732.3	730.9	729.4	727.9	725.1	721.0	716.8	712.7	708.6	704.5
52.5°	693.5	691.5	689.6	687.6	685.7	682.8	678.9	675.0	671.1	667.2	663.8
55°	631.6	629.9	628.1	626.3	624.5	621.9	618.4	614.8	611.3	607.7	604.2
57.5°	569.5	568.1	566.7	565.3	563.9	561.2	557.3	553.4	549.5	545.6	542.2
60°	528.1	526.9	525.8	524.6	523.4	520.8	516.6	512.5	508.4	504.2	501.0
62.5°	487.8	485.9	484.0	482.1	480.2	477.7	474.5	471.3	468.1	465.0	462.0
65°	426.0	424.2	422.4	420.6	418.9	416.5	413.6	410.6	407.7	404.7	402.1
67.5°	363.1	361.6	360.2	358.8	357.4	355.4	352.7	350.0	347.4	344.7	342.7
70°	323.8	322.6	321.4	320.2	319.1	317.1	314.5	311.8	309.2	306.5	304.5
72.5°	283.4	282.3	281.1	279.9	278.7	277.3	275.6	273.9	272.1	270.4	268.4
75°	222.9	222.3	221.7	221.2	220.6	219.5	218.1	216.6	215.1	213.6	211.9
77.5°	168.8	167.8	166.8	165.8	164.8	164.0	163.4	162.8	162.2	161.6	160.7
80°	132.7	132.4	132.1	131.8	131.5	131.1	130.5	129.9	129.3	128.7	127.8
82.5°	98.7	98.7	98.6	98.5	98.5	98.3	97.9	97.6	97.2	96.9	95.7
85°	54.4	54.1	53.8	53.5	53.2	52.9	52.6	52.3	52.0	51.8	50.9
87.5°	19.3	19.1	19.0	18.9	18.8	18.6	18.4	18.2	17.9	17.7	17.2
90°	0.7	2.5	4.2	6.0	7.7	9.2	10.5	11.8	13.0	14.3	15.1
92.5°	14.4	14.3	14.1	14.0	13.8	14.1	14.7	15.3	16.0	16.6	17.0
95°	46.5	41.3	36.0	30.8	25.5	23.4	24.6	25.7	26.8	27.9	28.7
97.5°	92.3	77.5	62.7	47.9	33.1	27.0	29.6	32.2	34.8	37.3	38.0
100°	126.6	104.8	83.1	61.3	39.5	30.0	32.7	35.4	38.1	40.8	42.0
102.5°	164.4	159.8	155.2	150.6	145.9	132.3	109.7	87.1	64.5	41.9	43.6
105°	217.5	222.2	227.0	231.8	236.5	217.2	173.8	130.4	87.0	43.6	45.4
107.5°	278.0	281.8	285.7	289.5	293.4	269.3	217.2	165.2	113.1	61.1	59.3
110°	316.9	320.2	323.6	326.9	330.2	308.9	263.0	217.1	171.1	125.2	109.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	353.5	356.5	359.4	362.4	365.3	361.1	349.8	338.4	327.1	315.7	257.8
115°	411.3	414.0	416.7	419.4	422.1	425.5	429.4	433.4	437.4	441.4	367.8
117.5°	463.0	466.0	469.0	472.0	475.0	477.9	480.7	483.4	486.1	488.9	471.1
120°	500.7	503.1	505.5	507.9	510.3	512.9	515.8	518.6	521.5	524.3	526.2
122.5°	532.8	535.3	537.8	540.3	542.8	545.6	548.8	551.9	555.0	558.1	559.2
125°	581.6	583.6	585.7	587.8	589.8	592.4	595.4	598.4	601.4	604.5	605.6
127.5°	625.8	628.1	630.4	632.6	634.9	637.2	639.5	641.7	644.0	646.2	647.9
130°	653.8	656.4	658.9	661.4	664.0	666.1	667.9	669.6	671.4	673.1	674.9
132.5°	682.4	684.6	686.8	688.9	691.1	693.0	694.8	696.5	698.3	700.0	701.5
135°	719.6	722.2	724.7	727.3	729.8	731.8	733.2	734.6	736.1	737.5	739.1
137.5°	757.3	759.0	760.8	762.6	764.4	766.1	767.7	769.3	770.9	772.6	774.1
140°	781.9	783.1	784.4	785.7	786.9	788.5	790.2	792.0	793.7	795.5	796.9
142.5°	802.5	803.6	804.8	805.9	807.0	808.6	810.6	812.6	814.6	816.6	817.9
145°	834.8	834.6	834.5	834.3	834.2	835.4	838.1	840.8	843.5	846.2	847.4
147.5°	863.0	862.4	861.8	861.2	860.6	861.6	864.3	866.9	869.6	872.3	873.1
150°	881.3	880.2	879.1	878.0	876.8	877.6	880.1	882.6	885.2	887.7	888.7
152.5°	896.7	895.5	894.3	893.0	891.8	892.4	894.8	897.2	899.6	902.0	903.0
155°	919.2	917.8	916.3	914.9	913.5	913.7	915.6	917.5	919.4	921.3	922.3
157.5°	936.8	935.6	934.4	933.2	932.0	932.0	933.4	934.7	936.0	937.4	938.5
160°	947.1	946.1	945.2	944.2	943.3	943.3	944.2	945.2	946.1	947.1	948.1
162.5°	956.3	955.3	954.4	953.4	952.4	952.4	953.2	954.0	954.9	955.7	956.8
165°	968.6	967.6	966.7	965.7	964.7	964.5	965.0	965.5	965.9	966.4	967.5
167.5°	977.7	976.8	975.8	974.9	973.9	973.6	974.1	974.5	975.0	975.4	976.5
170°	982.9	981.9	981.0	980.0	979.1	978.7	979.1	979.4	979.7	980.0	981.1
172.5°	986.3	985.3	984.4	983.4	982.5	982.2	982.5	982.8	983.1	983.4	984.6
175°	990.7	989.6	988.5	987.4	986.3	985.9	986.2	986.5	986.8	987.2	988.3
177.5°	991.5	990.6	989.7	988.8	987.9	987.5	987.6	987.8	987.9	988.0	988.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0	1380.0
2.5°	1374.1	1376.5	1378.8	1379.8	1379.3	1378.8	1378.4	1377.9
5°	1364.8	1367.2	1369.6	1370.4	1369.9	1369.3	1368.7	1368.1
7.5°	1349.4	1351.8	1354.2	1355.0	1354.4	1353.7	1353.1	1352.4
10°	1335.6	1338.0	1340.4	1341.1	1340.2	1339.3	1338.4	1337.6
12.5°	1319.4	1321.0	1322.7	1323.2	1322.5	1321.9	1321.2	1320.6
15°	1290.8	1292.0	1293.2	1293.0	1291.6	1290.1	1288.6	1287.1
17.5°	1256.9	1258.3	1259.7	1259.6	1258.2	1256.8	1255.4	1254.0
20°	1230.5	1231.4	1232.3	1232.1	1231.0	1229.8	1228.6	1227.4
22.5°	1202.6	1202.7	1202.9	1202.7	1201.9	1201.2	1200.5	1199.8
25°	1157.0	1157.5	1158.1	1158.1	1157.5	1157.0	1156.4	1155.8
27.5°	1112.1	1111.2	1110.3	1109.2	1107.7	1106.3	1104.9	1103.5
30°	1077.0	1076.2	1075.3	1074.2	1073.1	1071.9	1070.7	1069.5
32.5°	1042.7	1041.1	1039.5	1038.1	1037.0	1035.8	1034.6	1033.4
35°	987.7	985.9	984.2	982.5	981.1	979.6	978.1	976.6
37.5°	932.5	930.3	928.1	926.3	924.9	923.5	922.1	920.6
40°	894.4	891.7	889.1	887.1	886.0	884.8	883.6	882.4
42.5°	856.7	853.8	851.0	848.7	847.0	845.4	843.7	842.1
45°	799.0	795.7	792.5	790.3	789.1	787.9	786.7	785.6
47.5°	738.9	735.5	732.1	729.5	727.8	726.1	724.4	722.7
50°	700.3	696.2	692.1	689.3	687.8	686.3	684.9	683.4
52.5°	660.3	656.9	653.5	650.8	648.9	646.9	645.0	643.0
55°	600.7	597.1	593.6	591.1	589.6	588.1	586.7	585.2
57.5°	538.7	535.2	531.7	529.4	528.3	527.2	526.1	524.9
60°	497.8	494.5	491.3	489.2	488.3	487.4	486.5	485.7
62.5°	458.9	455.9	452.9	450.9	449.7	448.6	447.5	446.4
65°	399.4	396.8	394.1	392.0	390.6	389.1	387.6	386.1
67.5°	340.6	338.5	336.5	334.9	333.7	332.5	331.3	330.1
70°	302.4	300.3	298.3	296.6	295.5	294.3	293.1	291.9
72.5°	266.3	264.2	262.2	260.7	259.7	258.8	257.8	256.9
75°	210.1	208.3	206.6	206.0	206.6	207.2	207.7	208.3
77.5°	159.9	159.0	158.1	157.2	156.4	155.6	154.8	153.9
80°	126.9	126.1	125.2	124.4	123.8	123.3	122.7	122.1
82.5°	94.6	93.5	92.4	91.8	91.6	91.5	91.4	91.3
85°	50.0	49.1	48.2	47.6	47.3	47.0	46.7	46.4
87.5°	16.6	16.1	15.5	15.2	15.0	14.8	14.7	14.5
90°	15.9	16.7	17.5	18.0	18.4	18.7	19.0	19.3
92.5°	17.4	17.8	18.2	18.6	18.7	18.9	19.1	19.3
95°	29.5	30.3	31.1	31.4	31.2	31.1	30.9	30.8
97.5°	38.6	39.2	39.9	40.3	40.5	40.7	40.9	41.1
100°	43.3	44.6	45.9	46.7	47.0	47.3	47.6	47.9
102.5°	45.2	46.9	48.5	49.6	50.0	50.5	50.9	51.4
105°	47.1	48.9	50.6	51.8	52.5	53.1	53.7	54.4
107.5°	57.5	55.7	54.0	53.4	54.0	54.7	55.3	55.9
110°	93.4	77.5	61.6	54.0	54.6	55.2	55.9	56.5



TEST NUMBER: P331399

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.8	141.8	83.8	55.0	55.6	56.1	56.6	57.1
115°	294.2	220.6	147.0	104.4	93.0	81.5	70.1	58.7
117.5°	453.3	435.4	417.6	389.9	352.3	314.7	277.1	239.5
120°	528.2	530.1	532.0	522.2	500.7	479.3	457.8	436.4
122.5°	560.4	561.5	562.7	561.2	557.0	552.8	548.7	544.5
125°	606.7	607.8	608.9	609.7	610.2	610.7	611.1	611.6
127.5°	649.5	651.1	652.7	653.6	653.7	653.8	653.9	654.0
130°	676.6	678.4	680.1	680.9	680.8	680.6	680.4	680.3
132.5°	703.0	704.5	706.0	706.7	706.5	706.4	706.2	706.0
135°	740.7	742.3	743.9	744.5	744.2	743.9	743.5	743.2
137.5°	775.7	777.2	778.8	779.3	778.8	778.2	777.7	777.1
140°	798.3	799.7	801.2	801.5	800.7	799.9	799.1	798.3
142.5°	819.2	820.5	821.8	822.1	821.3	820.5	819.7	818.9
145°	848.5	849.6	850.7	850.8	850.1	849.3	848.5	847.7
147.5°	873.9	874.8	875.6	875.7	875.0	874.3	873.7	873.0
150°	889.6	890.6	891.5	891.6	890.8	890.0	889.2	888.4
152.5°	903.9	904.9	905.9	905.8	904.8	903.7	902.7	901.6
155°	923.3	924.2	925.2	925.0	923.7	922.5	921.2	919.9
157.5°	939.5	940.6	941.7	941.6	940.4	939.1	937.9	936.7
160°	949.0	950.0	950.9	950.8	949.7	948.6	947.5	946.4
162.5°	957.8	958.9	960.0	959.9	958.5	957.1	955.8	954.4
165°	968.6	969.8	970.9	970.9	969.8	968.6	967.5	966.4
167.5°	977.7	978.8	979.9	979.7	978.3	976.9	975.4	974.0
170°	982.2	983.3	984.5	984.3	982.9	981.4	980.0	978.6
172.5°	985.7	986.8	987.9	987.7	986.3	984.9	983.4	982.0
175°	989.4	990.5	991.6	991.4	989.8	988.2	986.6	985.0
177.5°	989.8	990.7	991.6	991.5	990.3	989.2	988.0	986.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6

(END OF REPORT)