

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: P332076-830

Luminaire Tested: **S123DIP-S1165D1025U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332076-830
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: S123DIP-S1165D1025U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1165 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7892.5 lumens
Efficiency: N/A
Efficacy: 118.2 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

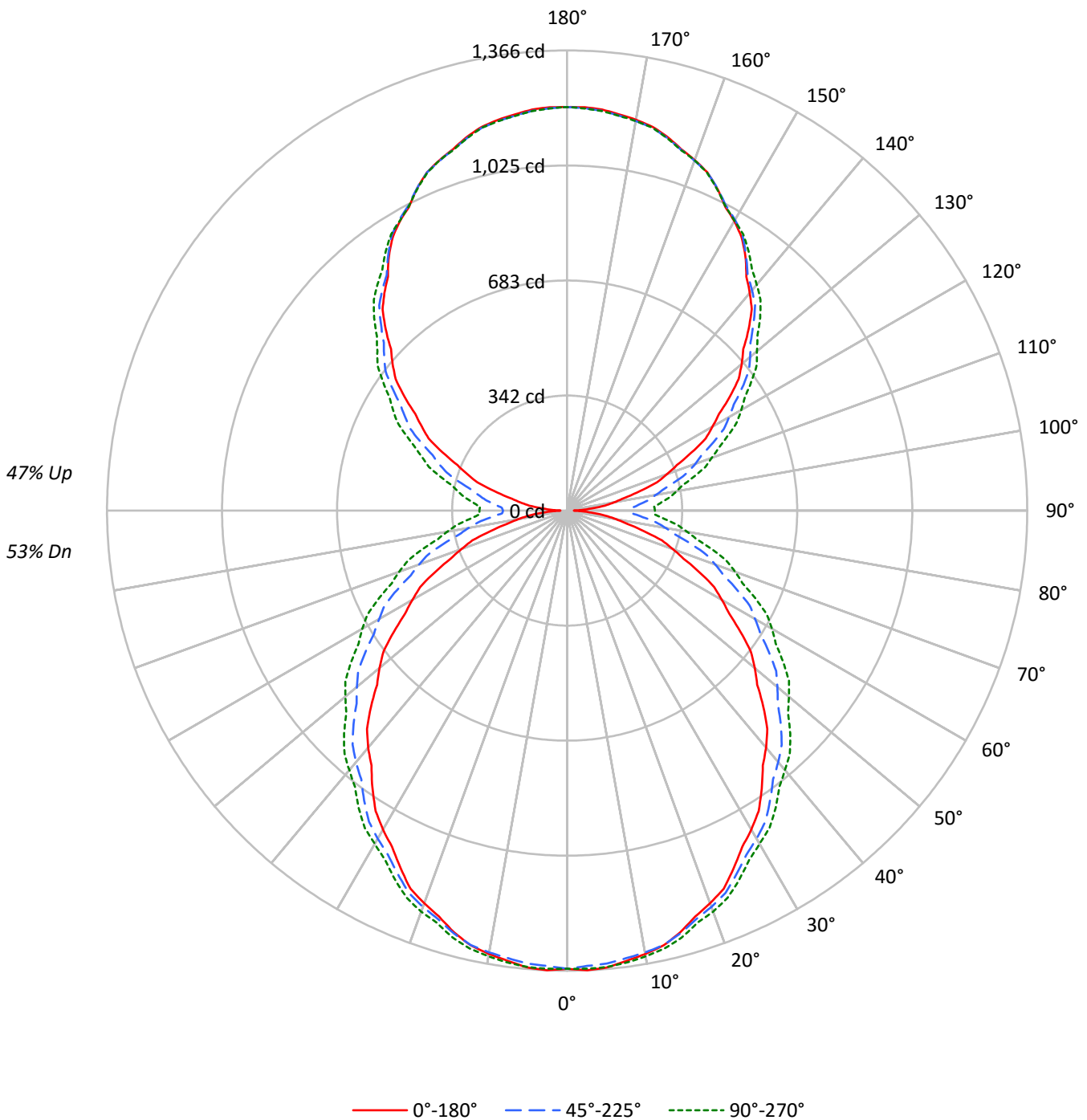
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	97	93	88	84	90	86	82	78	73	70	68	61	59	57	50	49	48	42
2	88	80	74	68	81	74	68	64	63	59	55	53	50	47	44	41	39	35
3	80	70	62	56	74	65	58	53	55	50	46	47	43	39	38	35	33	29
4	73	62	53	47	67	57	50	44	49	43	39	41	37	33	34	31	28	24
5	67	55	46	40	62	51	44	38	44	38	33	37	32	29	31	27	24	21
6	62	49	41	35	57	46	38	33	39	33	29	33	29	25	28	24	21	18
7	57	44	36	30	53	41	34	29	36	30	25	30	26	22	25	22	19	16
8	53	40	32	27	49	38	30	25	32	27	22	28	23	20	23	19	17	14
9	49	37	29	24	45	34	27	23	30	24	20	25	21	18	21	18	15	13
10	46	34	26	21	43	31	25	20	27	22	18	23	19	16	20	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14640	14640	14640
5°	14685	14271	14279
10°	14553	13942	13872
15°	14366	13569	13429
20°	14098	13143	12941
25°	13767	12652	12427
30°	13428	12211	11906
35°	13049	11744	11491
40°	12686	11320	11046
45°	12284	10913	10690
50°	11887	10508	10298
55°	11448	10097	9946
60°	11021	9677	9585
65°	10584	9230	9154
70°	9925	8729	8713
75°	9088	8154	8264
80°	8133	7589	7753
85°	7242	7201	7456



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.9	1.6
10°-20°	367.5	4.7
20°-30°	549.7	7.0
30°-40°	656.5	8.3
40°-50°	686.9	8.7
50°-60°	644.6	8.2
60°-70°	538.3	6.8
70°-80°	385.2	4.9
80°-90°	233.2	3.0
90°-100°	222.2	2.8
100°-110°	339.4	4.3
110°-120°	467.9	5.9
120°-130°	562.9	7.1
130°-140°	605.4	7.7
140°-150°	581.1	7.4
150°-160°	486.0	6.2
160°-170°	323.5	4.1
170°-180°	113.3	1.4
0°-30°	1046.2	13.3
0°-40°	1702.7	21.6
0°-60°	3034.1	38.4
0°-90°	4190.9	53.1
90°-120°	1029.5	13.0
90°-150°	2778.9	35.2
90°-180°	3702.0	46.9
0°-180°	7892.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1360	1360	1360	1360	1360	
5°	1362	1358	1350	1361	1360	129
15°	1296	1300	1299	1313	1313	365
25°	1170	1185	1190	1208	1209	539
35°	1008	1031	1050	1072	1079	630
45°	824	859	896	924	936	635
55°	628	677	730	769	782	562
65°	434	492	557	600	616	429
75°	236	305	379	426	446	252
85°	73	147	225	274	290	76
90°	20	103	190	242	261	17
95°	72	137	216	264	281	75
105°	224	263	333	373	390	239
115°	407	430	479	514	527	403
125°	590	595	634	660	668	526
135°	762	767	782	804	810	587
145°	923	923	926	936	939	576
155°	1055	1055	1056	1059	1053	485
165°	1149	1146	1146	1151	1145	324
175°	1195	1191	1191	1196	1190	113
180°	1198	1198	1198	1198	1198	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1366.0	1365.3	1364.4	1363.7	1362.8	1361.4	1359.3	1357.2	1355.1	1353.0	1355.1
5°	1361.6	1360.9	1360.3	1359.6	1359.0	1357.6	1355.7	1353.7	1351.7	1349.7	1352.4
7.5°	1348.2	1348.4	1348.5	1348.7	1348.8	1347.9	1346.0	1344.1	1342.2	1340.2	1343.5
10°	1336.4	1337.1	1337.8	1338.4	1339.1	1338.5	1336.9	1335.2	1333.6	1331.9	1335.2
12.5°	1322.2	1323.0	1324.0	1324.9	1325.9	1325.8	1324.6	1323.5	1322.4	1321.3	1324.3
15°	1296.4	1297.4	1298.4	1299.4	1300.3	1300.7	1300.3	1300.0	1299.7	1299.4	1302.7
17.5°	1263.8	1265.7	1267.7	1269.7	1271.7	1272.6	1272.5	1272.3	1272.2	1272.1	1275.1
20°	1240.1	1242.1	1244.1	1246.0	1248.0	1249.3	1250.0	1250.7	1251.3	1252.0	1254.9
22.5°	1215.2	1217.2	1219.2	1221.2	1223.1	1224.6	1225.5	1226.4	1227.3	1228.2	1232.0
25°	1170.4	1173.7	1177.0	1180.3	1183.6	1185.7	1186.8	1187.7	1188.7	1189.7	1194.0
27.5°	1125.4	1129.2	1132.9	1136.7	1140.4	1143.4	1145.5	1147.5	1149.7	1151.8	1155.5
30°	1093.4	1097.7	1101.9	1106.3	1110.5	1114.0	1116.6	1119.3	1121.9	1124.5	1128.5
32.5°	1057.8	1062.6	1067.4	1072.2	1077.0	1081.2	1084.6	1088.1	1091.5	1094.9	1099.1
35°	1007.5	1012.8	1018.0	1023.3	1028.6	1033.3	1037.6	1041.9	1046.1	1050.5	1055.4
37.5°	954.1	960.1	966.0	971.9	977.9	983.4	988.7	994.0	999.3	1004.6	1010.1
40°	918.6	924.5	930.5	936.3	942.3	948.6	955.2	961.7	968.3	974.9	980.5
42.5°	879.5	886.7	894.0	901.2	908.4	915.5	922.4	929.2	936.0	942.9	949.0
45°	823.8	831.7	839.5	847.4	855.4	863.5	871.7	879.9	888.2	896.4	902.6
47.5°	765.3	774.3	783.3	792.3	801.3	810.4	819.8	829.2	838.7	848.1	855.1
50°	727.5	736.7	745.9	755.1	764.3	774.0	784.3	794.5	804.6	814.8	822.5
52.5°	687.2	696.9	706.6	716.4	726.1	736.7	747.9	759.1	770.4	781.7	789.6
55°	628.2	639.0	649.9	660.8	671.7	683.0	694.8	706.7	718.6	730.5	739.3
57.5°	570.7	582.0	593.3	604.6	616.0	628.2	641.1	654.1	667.0	680.0	689.0
60°	530.4	542.2	554.1	566.0	577.8	590.5	604.0	617.5	631.0	644.5	653.7
62.5°	492.5	504.6	516.7	528.9	540.9	554.1	568.4	582.7	597.0	611.3	620.5
65°	434.1	447.0	459.8	472.6	485.5	499.2	513.6	528.1	542.6	557.0	566.9
67.5°	374.8	388.5	402.1	415.8	429.3	443.6	458.3	473.1	487.8	502.6	513.3
70°	333.4	347.5	361.7	375.8	390.0	405.0	420.8	436.6	452.4	468.2	478.7
72.5°	295.4	309.6	323.8	337.9	352.0	367.3	383.6	399.9	416.3	432.6	443.5
75°	235.5	251.1	266.6	282.0	297.5	313.4	329.9	346.4	362.8	379.3	390.1
77.5°	183.4	199.1	214.6	230.3	245.8	261.9	278.5	295.1	311.7	328.3	339.8
80°	146.7	162.8	179.0	195.1	211.2	227.8	245.0	262.1	279.2	296.3	307.6
82.5°	114.7	131.1	147.5	163.9	180.2	197.2	214.5	232.0	249.3	266.6	277.9
85°	72.6	89.1	105.6	122.0	138.5	155.4	172.9	190.3	207.7	225.2	236.4
87.5°	39.6	56.5	73.2	90.0	106.9	123.9	141.3	158.6	176.0	193.3	204.6
90°	20.2	38.5	56.6	74.8	93.1	112.0	131.5	151.0	170.5	190.0	202.0
92.5°	40.8	56.8	72.8	88.8	104.7	121.8	139.9	157.9	176.0	194.1	205.7
95°	71.8	86.1	100.4	114.7	129.0	145.1	162.9	180.7	198.5	216.3	227.3
97.5°	113.1	125.8	138.5	151.2	163.8	178.5	195.1	211.7	228.4	245.0	255.7
100°	141.3	153.1	164.9	176.6	188.4	202.5	218.7	234.8	251.0	267.2	277.4
102.5°	174.0	184.2	194.4	204.7	214.9	228.2	244.4	260.7	276.9	293.2	303.1
105°	223.6	231.9	240.2	248.5	256.8	269.0	285.0	301.0	317.2	333.2	342.4
107.5°	279.7	286.7	293.7	300.7	307.6	318.2	332.3	346.6	360.7	374.9	384.4
110°	314.6	321.0	327.3	333.7	340.1	350.0	363.6	377.2	390.8	404.4	413.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	352.3	357.4	362.5	367.7	372.8	381.7	394.5	407.2	419.9	432.6	442.0
115°	407.3	411.9	416.4	421.0	425.6	433.6	445.1	456.5	467.9	479.3	487.5
117.5°	463.8	466.7	469.5	472.4	475.2	481.9	492.5	503.1	513.7	524.2	532.1
120°	498.0	500.9	503.8	506.7	509.6	515.9	525.8	535.6	545.4	555.3	562.6
122.5°	534.9	536.7	538.4	540.2	542.0	547.8	557.5	567.3	577.1	586.9	593.7
125°	589.7	590.3	590.9	591.5	592.2	597.0	606.1	615.3	624.4	633.6	639.6
127.5°	641.6	642.6	643.6	644.6	645.6	649.9	657.3	664.8	672.2	679.6	684.9
130°	676.2	677.6	678.9	680.2	681.6	685.2	691.2	697.2	703.1	709.1	714.4
132.5°	709.6	711.2	712.8	714.4	716.0	719.3	724.1	728.9	733.7	738.5	743.5
135°	762.2	763.2	764.1	765.0	765.9	768.1	771.5	775.0	778.4	781.7	786.8
137.5°	810.9	811.6	812.4	813.2	814.0	815.7	818.2	820.9	823.4	826.0	830.4
140°	843.6	844.6	845.6	846.7	847.7	848.9	850.1	851.2	852.4	853.7	858.4
142.5°	874.4	875.2	876.0	876.8	877.5	878.2	878.8	879.4	880.0	880.5	884.7
145°	922.6	922.7	922.7	922.8	922.9	923.3	923.9	924.5	925.2	925.8	928.2
147.5°	963.3	964.0	964.8	965.5	966.3	967.0	967.5	968.1	968.7	969.3	970.1
150°	992.6	993.1	993.4	993.8	994.3	994.7	995.1	995.5	996.0	996.4	996.4
152.5°	1016.7	1017.3	1017.9	1018.4	1019.0	1019.5	1019.7	1019.9	1020.2	1020.5	1020.8
155°	1054.7	1054.7	1054.7	1054.7	1054.7	1054.8	1055.0	1055.2	1055.5	1055.6	1056.5
157.5°	1087.0	1086.8	1086.6	1086.3	1086.1	1086.0	1086.2	1086.4	1086.6	1086.7	1087.6
160°	1107.4	1106.9	1106.5	1106.2	1105.7	1105.5	1105.5	1105.5	1105.5	1105.5	1106.5
162.5°	1125.5	1124.8	1124.3	1123.7	1123.1	1122.9	1123.0	1123.2	1123.4	1123.6	1124.6
165°	1148.8	1148.1	1147.5	1146.9	1146.3	1145.9	1145.9	1145.9	1145.9	1145.9	1147.2
167.5°	1167.4	1166.6	1165.7	1164.9	1164.0	1163.8	1163.9	1164.0	1164.2	1164.4	1165.7
170°	1178.0	1177.1	1176.3	1175.4	1174.6	1174.2	1174.2	1174.2	1174.2	1174.2	1175.6
172.5°	1186.2	1185.4	1184.6	1183.7	1182.9	1182.4	1182.4	1182.4	1182.4	1182.4	1183.7
175°	1194.9	1194.0	1193.2	1192.4	1191.6	1191.1	1191.1	1191.1	1191.1	1191.1	1192.4
177.5°	1198.4	1197.8	1197.1	1196.5	1195.8	1195.4	1195.4	1195.4	1195.4	1195.4	1196.5
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1	1360.1
2.5°	1357.2	1359.3	1361.4	1362.4	1362.1	1361.8	1361.5	1361.3
5°	1355.0	1357.6	1360.3	1361.4	1361.1	1360.7	1360.5	1360.1
7.5°	1346.8	1350.1	1353.4	1354.9	1354.4	1354.1	1353.7	1353.3
10°	1338.5	1341.8	1345.1	1346.4	1345.8	1345.1	1344.4	1343.8
12.5°	1327.4	1330.4	1333.4	1334.5	1333.9	1333.2	1332.6	1331.9
15°	1305.9	1309.2	1312.5	1314.0	1313.7	1313.3	1313.1	1312.7
17.5°	1278.0	1281.0	1283.9	1285.2	1284.8	1284.3	1283.8	1283.4
20°	1257.8	1260.8	1263.8	1265.5	1265.7	1266.1	1266.4	1266.8
22.5°	1235.8	1239.5	1243.2	1245.0	1244.8	1244.6	1244.4	1244.3
25°	1198.3	1202.6	1206.8	1209.0	1209.0	1209.0	1209.0	1209.0
27.5°	1159.1	1162.8	1166.5	1168.5	1168.8	1169.0	1169.3	1169.6
30°	1132.5	1136.4	1140.3	1142.3	1142.3	1142.3	1142.3	1142.3
32.5°	1103.3	1107.6	1111.7	1114.3	1115.0	1115.9	1116.6	1117.4
35°	1060.4	1065.3	1070.2	1073.4	1074.7	1076.0	1077.3	1078.6
37.5°	1015.7	1021.3	1026.9	1030.2	1031.3	1032.4	1033.4	1034.4
40°	986.1	991.6	997.3	1000.7	1002.0	1003.3	1004.7	1006.0
42.5°	955.2	961.3	967.4	971.4	973.2	975.1	976.9	978.7
45°	908.9	915.1	921.4	925.9	928.5	931.1	933.8	936.3
47.5°	862.1	869.2	876.3	880.8	882.8	884.9	886.9	888.9
50°	830.0	837.6	845.2	850.1	852.4	854.7	857.1	859.3
52.5°	797.4	805.2	813.0	818.4	821.2	824.1	826.9	829.7
55°	748.2	757.1	766.0	771.8	774.4	777.0	779.7	782.3
57.5°	698.0	706.9	715.9	721.9	725.0	728.1	731.2	734.2
60°	662.9	672.1	681.4	687.8	691.4	695.0	698.6	702.3
62.5°	629.7	638.9	648.2	654.5	657.8	661.2	664.6	667.9
65°	576.8	586.7	596.6	603.1	606.4	609.7	613.0	616.3
67.5°	524.1	535.0	545.7	552.5	555.3	558.1	560.8	563.6
70°	489.3	499.8	510.3	517.3	520.6	523.9	527.1	530.4
72.5°	454.2	465.1	475.8	482.9	486.2	489.5	492.8	496.1
75°	401.1	411.9	422.7	430.2	434.1	438.1	442.1	445.9
77.5°	351.2	362.7	374.2	381.4	384.5	387.5	390.5	393.5
80°	318.7	329.9	341.1	348.4	351.7	355.0	358.3	361.5
82.5°	289.1	300.3	311.4	318.7	322.0	325.3	328.6	331.9
85°	247.6	258.8	269.9	277.2	280.5	283.8	287.1	290.4
87.5°	216.0	227.3	238.7	246.1	249.5	252.9	256.2	259.6
90°	214.1	226.1	238.1	246.0	249.7	253.4	257.1	260.8
92.5°	217.3	228.8	240.4	247.7	250.4	253.2	256.0	258.7
95°	238.4	249.4	260.5	267.7	270.9	274.2	277.5	280.8
97.5°	266.6	277.3	288.0	295.0	298.2	301.4	304.6	307.8
100°	287.6	297.7	307.9	314.8	318.6	322.3	326.0	329.7
102.5°	313.0	322.9	332.8	339.4	342.6	345.8	349.0	352.2
105°	351.6	360.8	370.0	376.4	379.8	383.1	386.4	389.8
107.5°	393.9	403.4	412.9	419.0	421.6	424.2	426.9	429.5
110°	423.2	432.5	442.0	447.8	450.0	452.2	454.4	456.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	451.2	460.5	469.9	475.9	478.7	481.5	484.4	487.1
115°	495.6	503.7	511.8	517.1	519.4	521.9	524.3	526.7
117.5°	539.9	547.6	555.4	560.3	562.3	564.3	566.3	568.3
120°	570.0	577.3	584.7	589.3	591.2	593.0	594.9	596.8
122.5°	600.5	607.3	614.0	618.2	620.0	621.7	623.4	625.1
125°	645.7	651.8	657.9	661.7	663.1	664.6	666.1	667.5
127.5°	690.3	695.7	701.0	704.4	705.6	706.9	708.1	709.5
130°	719.9	725.3	730.8	733.7	734.2	734.7	735.3	735.7
132.5°	748.5	753.5	758.5	761.5	762.6	763.7	764.9	766.0
135°	791.9	797.0	802.1	805.3	806.5	807.8	809.0	810.2
137.5°	834.6	839.0	843.3	845.9	846.8	847.6	848.5	849.3
140°	863.1	867.8	872.5	875.1	875.2	875.3	875.5	875.7
142.5°	888.9	893.2	897.3	899.7	900.2	900.7	901.3	901.7
145°	930.7	933.1	935.5	937.0	937.5	937.9	938.4	938.9
147.5°	970.8	971.7	972.4	972.8	972.7	972.6	972.6	972.5
150°	996.4	996.4	996.4	996.1	995.5	994.9	994.3	993.7
152.5°	1021.2	1021.4	1021.8	1021.4	1020.5	1019.5	1018.6	1017.7
155°	1057.3	1058.2	1058.9	1058.7	1057.2	1055.7	1054.2	1052.8
157.5°	1088.4	1089.3	1090.2	1090.1	1088.9	1087.7	1086.6	1085.3
160°	1107.6	1108.6	1109.7	1109.7	1109.0	1108.1	1107.3	1106.5
162.5°	1125.7	1126.7	1127.8	1127.6	1126.2	1124.9	1123.6	1122.3
165°	1148.5	1149.7	1150.9	1150.8	1149.4	1147.9	1146.5	1145.0
167.5°	1167.0	1168.3	1169.6	1169.6	1168.3	1167.0	1165.7	1164.4
170°	1177.1	1178.6	1180.1	1180.1	1178.6	1177.1	1175.6	1174.2
172.5°	1185.1	1186.4	1187.6	1187.6	1186.1	1184.7	1183.2	1181.7
175°	1193.6	1194.9	1196.2	1196.0	1194.6	1193.1	1191.7	1190.1
177.5°	1197.5	1198.4	1199.5	1199.4	1198.3	1197.0	1195.9	1194.7
180°	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7	1197.7

(END OF REPORT)