

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: P332779-940

Luminaire Tested: **S124DIW-S795D470U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332779-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D470U940-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4710.5 lumens
Efficiency: N/A
Efficacy: 124.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

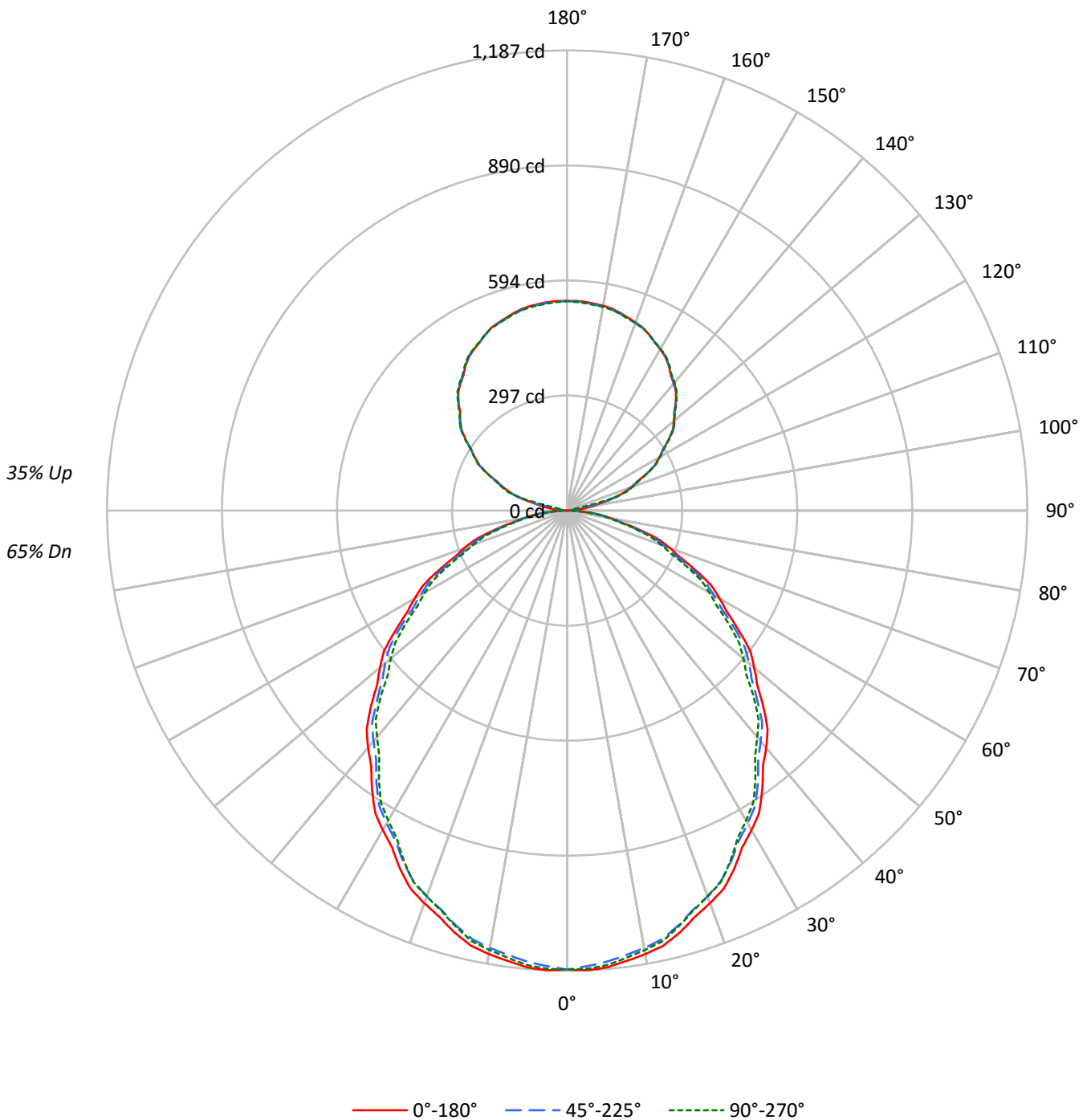
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	65
1	101	97	93	89	95	91	87	84	80	78	75	70	68	67	61	60	59	54
2	92	84	78	73	86	79	74	69	70	66	62	62	59	56	54	52	49	45
3	84	74	67	61	79	70	63	58	62	57	52	55	51	47	48	45	42	38
4	77	66	58	51	72	62	55	49	55	49	45	49	44	40	43	39	36	33
5	71	59	50	44	66	55	48	42	49	43	39	44	39	35	39	35	32	29
6	65	53	44	38	61	50	42	37	45	38	34	40	35	31	35	31	28	25
7	60	48	39	34	56	45	38	32	40	34	30	36	31	27	32	28	25	22
8	56	43	35	30	53	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	26	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9556	9556	9556
5°	9585	9469	9539
10°	9525	9393	9439
15°	9410	9260	9283
20°	9257	9094	9101
25°	9082	8905	8879
30°	8869	8682	8603
35°	8647	8451	8339
40°	8416	8186	8037
45°	8176	7927	7775
50°	7910	7695	7458
55°	7623	7396	7156
60°	7335	7061	6846
65°	7011	6739	6468
70°	6649	6314	6069
75°	6095	5798	5652
80°	5421	5202	5072
85°	4742	4566	4474



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.5	2.4
10°-20°	314.1	6.7
20°-30°	462.3	9.8
30°-40°	537.4	11.4
40°-50°	537.5	11.4
50°-60°	470.1	10.0
60°-70°	349.1	7.4
70°-80°	198.4	4.2
80°-90°	58.8	1.2
90°-100°	18.5	0.4
100°-110°	117.8	2.5
110°-120°	225.4	4.8
120°-130°	286.1	6.1
130°-140°	306.1	6.5
140°-150°	286.3	6.1
150°-160°	230.9	4.9
160°-170°	148.9	3.2
170°-180°	51.3	1.1
0°-30°	887.8	18.8
0°-40°	1425.3	30.3
0°-60°	2432.8	51.6
0°-90°	3039.1	64.5
90°-120°	361.7	7.7
90°-150°	1240.3	26.3
90°-180°	1671.0	35.5
0°-180°	4710.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1184	1184	1184	1184	1184	
5°	1183	1179	1168	1178	1177	112
15°	1126	1122	1108	1113	1111	317
25°	1020	1013	1000	1000	997	469
35°	877	870	858	851	846	548
45°	716	709	694	684	681	552
55°	542	538	526	514	508	485
65°	367	362	353	344	339	363
75°	195	191	186	182	181	208
85°	51	51	49	49	48	56
90°	1	6	9	11	12	4
95°	22	9	9	11	12	29
105°	122	124	126	129	115	127
115°	227	228	228	229	229	223
125°	319	321	320	321	322	285
135°	396	396	397	398	399	305
145°	457	458	458	458	459	285
155°	501	501	500	501	500	231
165°	528	526	526	529	526	149
175°	540	538	538	541	537	51
180°	540	540	540	540	540	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7
2.5°	1186.8	1186.2	1185.7	1185.3	1184.7	1183.6	1181.7	1179.8	1177.9	1176.2	1177.8
5°	1182.8	1182.0	1181.1	1180.3	1179.4	1177.8	1175.5	1173.1	1170.8	1168.5	1170.8
7.5°	1171.8	1170.9	1170.1	1169.2	1168.4	1166.7	1164.1	1161.5	1159.0	1156.4	1158.2
10°	1161.9	1161.1	1160.2	1159.4	1158.5	1156.7	1154.0	1151.3	1148.5	1145.8	1147.5
12.5°	1149.0	1148.2	1147.3	1146.5	1145.7	1143.7	1140.9	1137.9	1135.1	1132.1	1134.0
15°	1125.9	1125.0	1124.2	1123.3	1122.5	1120.5	1117.3	1114.2	1111.0	1107.9	1109.1
17.5°	1098.0	1096.9	1095.8	1094.8	1093.8	1091.7	1088.8	1085.7	1082.7	1079.8	1080.6
20°	1077.5	1076.4	1075.4	1074.3	1073.3	1071.1	1068.0	1064.8	1061.7	1058.5	1059.2
22.5°	1055.5	1054.1	1052.7	1051.3	1049.9	1047.7	1044.5	1041.3	1038.1	1035.0	1036.2
25°	1019.6	1018.2	1016.6	1015.2	1013.7	1011.5	1008.5	1005.6	1002.6	999.7	999.9
27.5°	978.7	977.1	975.6	974.1	972.6	970.4	967.7	965.0	962.2	959.5	958.9
30°	951.4	949.7	948.0	946.3	944.6	942.4	939.6	936.9	934.2	931.4	930.6
32.5°	922.5	921.0	919.4	917.9	916.4	914.2	911.3	908.4	905.5	902.6	901.6
35°	877.4	875.8	874.4	872.9	871.5	869.2	866.3	863.4	860.4	857.5	856.0
37.5°	829.7	828.4	827.1	825.7	824.3	822.1	818.9	815.7	812.6	809.4	807.8
40°	798.6	796.9	795.2	793.5	791.8	789.4	786.3	783.1	780.0	776.8	774.7
42.5°	765.3	764.2	763.2	762.2	761.2	758.9	755.5	752.0	748.4	744.9	742.5
45°	716.1	714.6	713.2	711.7	710.2	707.8	704.5	701.1	697.7	694.3	692.0
47.5°	664.7	663.7	662.7	661.6	660.7	658.6	655.5	652.4	649.3	646.1	643.5
50°	629.8	628.9	628.1	627.2	626.4	624.6	621.6	618.7	615.6	612.7	609.8
52.5°	595.7	594.7	593.6	592.6	591.6	589.5	586.4	583.3	580.1	577.0	574.4
55°	541.6	540.9	540.3	539.7	539.0	537.3	534.3	531.4	528.4	525.5	522.9
57.5°	490.0	489.3	488.6	487.9	487.1	485.3	482.4	479.5	476.6	473.7	471.3
60°	454.3	453.3	452.2	451.2	450.1	448.2	445.5	442.7	440.0	437.3	435.3
62.5°	419.5	418.6	417.7	416.8	415.9	414.0	411.1	408.1	405.3	402.3	400.6
65°	367.0	366.0	365.0	363.9	362.8	361.2	359.2	357.0	354.9	352.8	350.7
67.5°	314.3	313.3	312.4	311.4	310.5	309.0	306.9	304.9	302.9	300.9	298.8
70°	281.7	280.3	278.7	277.2	275.8	274.2	272.5	270.8	269.1	267.5	265.8
72.5°	246.8	245.3	243.9	242.4	240.9	239.5	238.2	236.7	235.4	234.1	232.7
75°	195.4	194.3	193.3	192.3	191.2	190.1	189.0	188.0	187.0	185.9	185.0
77.5°	146.2	145.8	145.3	144.9	144.4	143.7	142.8	141.9	140.9	140.0	139.7
80°	116.6	116.0	115.4	114.8	114.1	113.6	113.2	112.8	112.4	111.9	111.5
82.5°	87.8	87.6	87.2	86.9	86.7	86.5	86.4	86.3	86.2	86.1	85.9
85°	51.2	51.2	51.2	51.2	51.2	51.0	50.6	50.2	49.8	49.3	49.3
87.5°	20.0	20.0	20.1	20.1	20.1	20.1	20.1	20.1	20.0	20.0	20.1
90°	1.2	2.2	3.2	4.2	5.2	6.0	6.8	7.5	8.2	8.9	9.5
92.5°	5.1	5.2	5.2	5.3	5.4	5.7	6.4	7.1	7.8	8.6	9.1
95°	22.2	19.2	16.1	13.1	10.0	8.6	8.6	8.7	8.8	8.9	9.5
97.5°	47.2	49.1	51.0	52.9	54.8	50.7	40.8	30.7	20.7	10.7	10.7
100°	66.3	67.9	69.6	71.2	72.8	67.3	54.9	42.5	30.1	17.7	16.2
102.5°	87.7	88.8	90.0	91.1	92.4	92.1	90.5	88.9	87.3	85.7	69.2
105°	121.6	122.2	122.7	123.2	123.8	124.3	124.8	125.2	125.6	126.1	126.9
107.5°	153.3	153.6	153.8	154.1	154.4	154.8	155.3	156.0	156.6	157.2	157.6
110°	174.6	174.9	175.1	175.4	175.7	176.0	176.6	177.2	177.7	178.3	178.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	195.3	195.7	196.3	196.7	197.2	197.6	197.9	198.0	198.3	198.6	198.6
115°	227.1	227.4	227.7	227.9	228.2	228.3	228.2	228.1	228.0	227.9	228.1
117.5°	255.8	256.2	256.5	256.9	257.3	257.5	257.7	257.9	258.2	258.3	258.2
120°	275.2	275.5	275.9	276.3	276.6	276.8	276.7	276.6	276.5	276.4	276.6
122.5°	293.3	293.6	293.7	294.0	294.2	294.4	294.4	294.6	294.7	294.9	295.0
125°	319.2	319.6	319.9	320.3	320.7	320.7	320.6	320.4	320.2	320.0	320.3
127.5°	343.8	343.9	344.0	344.1	344.2	344.5	344.8	345.3	345.7	346.1	346.1
130°	359.6	359.7	359.9	360.0	360.1	360.3	360.5	360.8	361.1	361.3	361.4
132.5°	374.3	374.3	374.5	374.7	374.9	375.1	375.5	375.8	376.1	376.5	376.6
135°	396.0	395.9	395.8	395.7	395.7	395.8	396.2	396.5	396.9	397.3	397.4
137.5°	415.4	415.4	415.4	415.4	415.5	415.7	416.1	416.5	416.9	417.3	417.5
140°	427.9	428.1	428.3	428.5	428.6	428.8	429.0	429.3	429.4	429.6	429.9
142.5°	439.3	439.6	440.0	440.2	440.6	440.8	440.9	441.0	441.1	441.2	441.4
145°	456.6	456.9	457.2	457.4	457.7	457.9	457.9	457.9	457.9	457.9	458.0
147.5°	470.5	471.0	471.4	472.0	472.5	472.7	472.6	472.5	472.4	472.3	472.4
150°	480.5	480.9	481.3	481.6	482.0	482.1	482.0	481.9	481.8	481.7	481.7
152.5°	488.9	489.2	489.5	489.7	490.1	490.1	490.0	489.8	489.6	489.5	489.6
155°	500.7	500.8	500.9	501.0	501.1	501.0	500.7	500.4	500.2	499.9	500.2
157.5°	510.7	510.6	510.5	510.5	510.4	510.2	510.0	509.6	509.3	509.1	509.5
160°	516.5	516.2	515.9	515.7	515.4	515.2	515.1	515.1	515.0	514.9	515.4
162.5°	521.7	521.3	520.9	520.6	520.3	520.0	520.0	519.9	519.8	519.7	520.2
165°	528.2	527.7	527.3	526.8	526.4	526.2	526.2	526.2	526.2	526.2	526.9
167.5°	533.3	532.9	532.4	532.0	531.5	531.2	531.2	531.1	531.1	531.0	531.8
170°	536.3	535.7	535.2	534.7	534.1	533.9	534.0	534.0	534.1	534.2	534.9
172.5°	538.2	537.7	537.2	536.6	536.1	535.8	535.9	536.0	536.1	536.2	536.9
175°	540.3	539.8	539.2	538.7	538.1	538.0	538.1	538.1	538.2	538.3	539.1
177.5°	541.3	540.8	540.3	539.8	539.3	539.1	539.2	539.4	539.5	539.7	540.2
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7	1183.7
2.5°	1179.5	1181.2	1182.9	1183.7	1183.5	1183.3	1183.1	1182.9
5°	1173.1	1175.5	1177.8	1178.8	1178.3	1177.9	1177.5	1177.1
7.5°	1160.1	1162.0	1163.8	1164.6	1164.4	1164.1	1163.9	1163.6
10°	1149.1	1150.8	1152.5	1153.2	1152.7	1152.3	1151.9	1151.5
12.5°	1135.9	1137.6	1139.5	1140.1	1139.6	1139.0	1138.4	1137.8
15°	1110.4	1111.6	1112.9	1113.2	1112.6	1112.0	1111.3	1110.7
17.5°	1081.4	1082.2	1083.0	1083.2	1082.7	1082.3	1081.9	1081.5
20°	1059.8	1060.4	1061.0	1061.1	1060.7	1060.3	1059.9	1059.4
22.5°	1037.2	1038.4	1039.6	1039.7	1038.9	1038.2	1037.4	1036.7
25°	1000.1	1000.3	1000.6	1000.2	999.4	998.5	997.7	996.8
27.5°	958.5	958.0	957.4	956.7	955.6	954.6	953.5	952.4
30°	929.7	928.9	928.0	927.1	926.0	925.0	923.9	922.9
32.5°	900.5	899.6	898.6	897.5	896.4	895.4	894.3	893.3
35°	854.5	853.0	851.5	850.2	849.2	848.2	847.1	846.1
37.5°	806.2	804.6	803.1	801.6	800.1	798.8	797.4	795.9
40°	772.6	770.5	768.4	766.8	765.7	764.7	763.7	762.6
42.5°	740.0	737.6	735.1	733.6	732.9	732.2	731.5	730.8
45°	689.6	687.3	685.0	683.6	682.9	682.2	681.6	681.0
47.5°	640.9	638.3	635.6	633.6	632.0	630.4	628.7	627.1
50°	606.8	603.9	600.9	598.8	597.5	596.3	595.0	593.8
52.5°	571.9	569.2	566.6	564.5	562.9	561.3	559.7	558.1
55°	520.4	517.9	515.3	513.4	512.2	511.0	509.6	508.4
57.5°	468.9	466.5	464.0	462.3	461.0	459.8	458.6	457.4
60°	433.5	431.6	429.6	428.2	427.1	426.1	425.0	424.0
62.5°	398.9	397.2	395.5	394.0	393.0	391.9	390.9	389.9
65°	348.7	346.5	344.4	342.9	341.8	340.7	339.7	338.6
67.5°	296.9	294.8	292.7	291.6	291.3	291.1	290.7	290.4
70°	264.1	262.4	260.7	259.6	259.0	258.3	257.7	257.1
72.5°	231.4	230.1	228.7	227.7	227.0	226.4	225.8	225.2
75°	184.2	183.3	182.5	182.0	181.8	181.6	181.4	181.2
77.5°	139.5	139.2	139.0	138.6	138.0	137.5	137.0	136.4
80°	111.1	110.7	110.2	109.9	109.7	109.5	109.3	109.1
82.5°	85.6	85.3	85.1	84.9	84.7	84.4	84.3	84.0
85°	49.3	49.3	49.3	49.2	49.0	48.8	48.6	48.3
87.5°	20.2	20.3	20.4	20.5	20.5	20.6	20.6	20.6
90°	10.0	10.5	11.1	11.4	11.6	11.8	11.9	12.1
92.5°	9.6	10.2	10.7	11.0	11.1	11.1	11.1	11.1
95°	10.0	10.5	11.1	11.3	11.4	11.5	11.6	11.7
97.5°	10.8	10.8	10.9	11.0	11.1	11.1	11.2	11.3
100°	14.7	13.2	11.7	11.0	11.1	11.1	11.2	11.3
102.5°	52.7	36.3	19.8	11.6	11.6	11.6	11.6	11.7
105°	127.7	128.5	129.3	128.1	124.8	121.6	118.4	115.2
107.5°	158.0	158.4	158.8	159.2	159.5	159.8	160.2	160.5
110°	178.6	178.8	179.0	179.1	179.4	179.7	179.9	180.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.5	198.5	198.4	198.6	198.9	199.3	199.7	199.9
115°	228.3	228.5	228.6	228.7	228.7	228.7	228.7	228.7
117.5°	258.2	258.2	258.2	258.2	258.1	258.1	258.1	258.0
120°	276.8	277.0	277.1	277.1	277.0	276.8	276.6	276.4
122.5°	295.1	295.2	295.2	295.2	295.1	294.9	294.7	294.5
125°	320.6	320.8	321.1	321.3	321.4	321.5	321.6	321.6
127.5°	346.0	345.9	345.9	345.8	345.7	345.6	345.6	345.5
130°	361.5	361.6	361.7	361.7	361.7	361.7	361.7	361.7
132.5°	376.7	376.7	376.8	376.8	376.7	376.7	376.7	376.6
135°	397.6	397.8	398.0	398.1	398.3	398.5	398.7	398.9
137.5°	417.7	417.9	418.1	418.1	418.1	418.0	418.0	417.9
140°	430.2	430.4	430.7	430.9	431.0	431.1	431.1	431.2
142.5°	441.6	441.8	442.0	442.1	442.1	442.2	442.2	442.2
145°	458.1	458.2	458.3	458.3	458.5	458.7	458.9	459.1
147.5°	472.5	472.5	472.6	472.7	472.8	472.9	473.0	473.1
150°	481.7	481.7	481.7	481.8	481.9	482.0	482.1	482.1
152.5°	489.7	489.9	490.1	490.1	490.1	490.0	489.9	489.9
155°	500.6	501.0	501.3	501.4	501.1	500.9	500.6	500.3
157.5°	510.0	510.4	510.9	510.9	510.4	510.0	509.5	509.1
160°	515.9	516.5	517.0	517.0	516.5	515.9	515.4	514.9
162.5°	520.8	521.3	521.8	521.8	521.2	520.6	520.0	519.4
165°	527.6	528.3	529.1	529.0	528.2	527.4	526.6	525.8
167.5°	532.6	533.4	534.2	534.1	533.2	532.4	531.5	530.6
170°	535.7	536.4	537.2	537.1	536.1	535.2	534.3	533.4
172.5°	537.6	538.3	539.0	539.0	538.0	537.0	536.0	535.0
175°	539.9	540.7	541.5	541.4	540.3	539.2	538.1	537.1
177.5°	540.8	541.4	542.0	541.8	541.0	540.1	539.2	538.4
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3

(END OF REPORT)