

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: P331370-940

Luminaire Tested: **S122DIP-S675D1080U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331370-940  
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: S122DIP-S675D1080U940-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

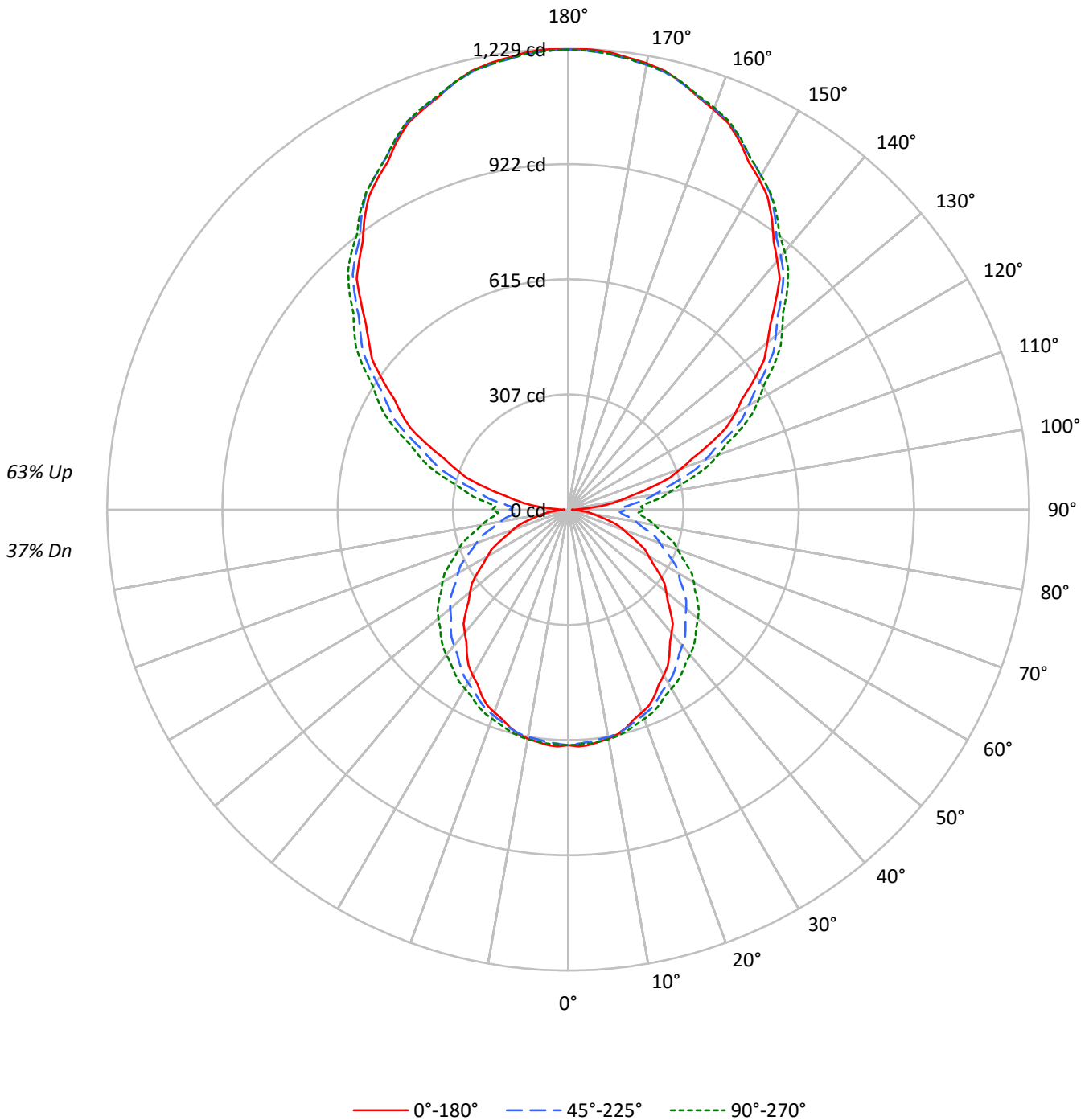
Lumens per Lamp: N/A  
Luminaire Lumens: 5833.3 lumens  
Efficiency: N/A  
Efficacy: 102.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 56.9  
Input Voltage (V): 120  
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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10141	10141	10141
5°	10191	9762	9724
10°	10126	9474	9367
15°	9987	9168	8990
20°	9810	8841	8627
25°	9637	8525	8298
30°	9392	8201	7967
35°	9142	7888	7735
40°	8880	7621	7501
45°	8632	7383	7302
50°	8365	7166	7106
55°	8089	6934	6906
60°	7745	6695	6695
65°	7391	6412	6445
70°	6992	6110	6173
75°	6483	5811	5925
80°	5680	5509	5672
85°	4908	5245	5473



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	1.0
10°-20°	170.7	2.9
20°-30°	258.6	4.4
30°-40°	315.0	5.4
40°-50°	338.9	5.8
50°-60°	329.1	5.6
60°-70°	287.4	4.9
70°-80°	221.2	3.8
80°-90°	153.4	2.6
90°-100°	180.1	3.1
100°-110°	316.2	5.4
110°-120°	462.2	7.9
120°-130°	570.5	9.8
130°-140°	621.0	10.6
140°-150°	599.6	10.3
150°-160°	501.2	8.6
160°-170°	332.4	5.7
170°-180°	116.2	2.0
0°-30°	488.8	8.4
0°-40°	803.8	13.8
0°-60°	1471.8	25.2
0°-90°	2133.8	36.6
90°-120°	958.5	16.4
90°-150°	2749.6	47.1
90°-180°	3699.0	63.4
0°-180°	5833.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	628	628	628	628	628	
5°	630	627	622	627	626	60
15°	601	602	603	610	610	169
25°	546	553	561	571	574	251
35°	471	486	503	523	530	294
45°	386	411	442	470	480	298
55°	296	329	376	408	420	264
65°	202	247	300	336	350	201
75°	112	163	221	259	272	118
85°	33	89	148	184	198	35
90°	10	76	156	190	203	9
95°	61	114	171	204	214	68
105°	227	258	306	339	350	240
115°	418	435	473	498	506	413
125°	605	615	640	661	669	540
135°	781	792	803	821	826	603
145°	947	954	960	966	967	591
155°	1082	1086	1089	1093	1091	498
165°	1178	1177	1177	1183	1179	332
175°	1225	1222	1220	1227	1221	116
180°	1227	1227	1227	1227	1227	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	631.8	631.2	630.8	630.3	629.8	629.0	627.9	626.7	625.6	624.5	625.3
5°	629.9	629.3	628.7	628.1	627.5	626.6	625.4	624.2	622.9	621.7	622.9
7.5°	624.3	623.8	623.5	623.0	622.7	622.0	621.1	620.1	619.2	618.3	619.7
10°	619.9	619.5	619.1	618.7	618.3	617.8	617.2	616.6	616.0	615.4	617.0
12.5°	612.6	612.7	612.8	612.9	613.0	612.8	612.3	611.9	611.4	611.0	612.6
15°	600.8	601.2	601.6	602.0	602.4	602.6	602.6	602.6	602.6	602.6	604.4
17.5°	585.5	586.4	587.2	588.1	588.9	589.7	590.3	590.9	591.6	592.3	594.1
20°	575.3	576.3	577.3	578.4	579.3	580.2	581.0	581.9	582.7	583.5	585.8
22.5°	564.4	565.5	566.8	567.9	569.1	570.2	571.4	572.5	573.6	574.8	577.0
25°	546.2	547.6	549.0	550.5	551.9	553.5	555.3	557.1	558.9	560.7	563.2
27.5°	524.3	526.6	529.0	531.3	533.6	535.8	538.0	540.1	542.2	544.4	547.4
30°	509.8	512.4	515.1	517.6	520.3	522.9	525.6	528.2	530.8	533.4	536.6
32.5°	493.7	496.7	499.6	502.6	505.6	508.6	511.8	514.8	517.9	521.0	524.8
35°	470.6	474.0	477.5	480.9	484.4	488.0	491.9	495.7	499.5	503.4	507.8
37.5°	445.5	449.5	453.4	457.4	461.4	465.8	470.8	475.8	480.7	485.7	490.7
40°	428.7	433.2	437.7	442.1	446.6	451.5	457.0	462.4	467.9	473.3	478.6
42.5°	412.8	417.1	421.6	426.1	430.5	435.9	442.2	448.4	454.7	461.0	466.7
45°	385.9	391.5	396.9	402.3	407.8	414.1	421.2	428.3	435.3	442.4	448.7
47.5°	359.5	365.5	371.5	377.4	383.3	390.5	398.8	407.1	415.4	423.7	430.3
50°	341.3	347.7	353.9	360.2	366.4	374.2	383.3	392.4	401.4	410.5	417.4
52.5°	323.9	330.5	337.1	343.7	350.3	358.4	367.9	377.6	387.1	396.7	403.8
55°	295.9	303.1	310.4	317.7	324.9	333.9	344.4	354.9	365.4	375.9	383.3
57.5°	268.1	276.4	284.6	292.8	301.0	310.5	321.2	331.9	342.7	353.4	361.2
60°	248.5	257.2	265.9	274.6	283.3	293.5	305.0	316.5	328.0	339.6	347.2
62.5°	231.0	240.0	249.1	258.1	267.2	277.4	288.9	300.4	312.0	323.5	331.7
65°	202.1	212.0	221.9	231.8	241.7	252.6	264.6	276.5	288.5	300.4	308.7
67.5°	175.5	185.8	196.3	206.6	217.0	228.2	240.4	252.6	264.8	277.1	285.4
70°	156.6	167.1	177.6	188.2	198.7	210.2	222.7	235.2	247.8	260.4	269.0
72.5°	139.1	149.9	160.8	171.7	182.4	194.2	207.0	219.6	232.4	245.0	253.6
75°	112.0	123.3	134.6	146.0	157.3	169.4	182.4	195.3	208.2	221.2	229.9
77.5°	85.8	97.6	109.5	121.3	133.1	145.7	158.8	172.0	185.1	198.2	207.0
80°	68.3	80.6	92.9	105.3	117.6	130.4	143.6	156.7	169.8	183.0	191.5
82.5°	53.7	65.9	78.0	90.2	102.5	115.1	128.5	141.8	155.1	168.4	176.9
85°	32.8	45.3	57.9	70.4	82.9	95.7	108.6	121.5	134.6	147.5	156.0
87.5°	18.0	30.7	43.2	55.9	68.5	81.8	95.8	109.7	123.7	137.6	145.8
90°	10.2	24.6	39.1	53.6	68.1	84.4	102.4	120.4	138.4	156.4	164.1
92.5°	26.8	39.8	52.7	65.6	78.6	91.9	105.6	119.2	132.9	146.5	154.5
95°	61.2	72.9	84.8	96.6	108.3	120.6	133.2	145.8	158.4	170.9	178.7
97.5°	104.8	115.3	125.7	136.3	146.7	158.2	170.8	183.2	195.8	208.3	215.8
100°	137.9	147.2	156.6	165.9	175.2	185.9	197.9	209.9	221.9	234.0	241.5
102.5°	172.0	180.3	188.6	196.9	205.3	215.3	227.2	239.1	250.9	262.9	270.4
105°	227.2	233.8	240.4	246.9	253.5	262.3	273.2	284.2	295.2	306.1	313.7
107.5°	283.8	289.5	295.2	301.0	306.7	314.5	324.6	334.7	344.7	354.8	361.9
110°	319.6	325.0	330.4	335.8	341.3	348.9	358.8	368.7	378.7	388.6	395.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	359.4	364.1	368.9	373.7	378.4	385.5	394.7	403.9	413.2	422.4	428.4
115°	417.9	421.6	425.2	428.7	432.4	438.5	447.2	455.8	464.4	473.1	478.9
117.5°	475.5	478.8	482.1	485.4	488.7	493.8	501.0	508.1	515.2	522.4	527.8
120°	514.4	517.1	519.7	522.4	525.0	529.5	535.7	542.0	548.2	554.5	560.2
122.5°	550.0	552.6	555.1	557.7	560.2	564.6	571.0	577.2	583.5	589.9	594.9
125°	604.7	606.7	608.8	610.9	613.0	616.9	622.7	628.5	634.2	640.0	644.8
127.5°	658.7	661.1	663.5	666.0	668.4	671.8	676.2	680.6	685.0	689.4	693.6
130°	692.7	695.4	698.3	701.1	703.8	707.1	711.0	714.7	718.5	722.3	726.7
132.5°	730.8	733.1	735.3	737.5	739.8	742.5	745.9	749.3	752.7	756.1	759.7
135°	780.9	783.4	786.0	788.5	791.0	793.5	795.9	798.4	800.9	803.4	807.4
137.5°	834.6	836.5	838.6	840.6	842.7	844.4	845.9	847.4	848.9	850.3	853.9
140°	866.8	868.7	870.6	872.4	874.3	876.0	877.6	879.1	880.7	882.3	885.5
142.5°	900.0	901.9	903.7	905.6	907.5	908.8	909.7	910.5	911.4	912.3	915.1
145°	946.7	948.3	949.9	951.5	953.1	954.7	956.0	957.4	958.8	960.2	961.6
147.5°	989.2	991.1	993.0	995.0	996.9	998.4	999.3	1000.2	1001.1	1002.0	1002.7
150°	1018.2	1019.6	1020.9	1022.3	1023.7	1024.8	1025.8	1026.7	1027.6	1028.6	1029.2
152.5°	1043.8	1045.3	1046.6	1048.0	1049.4	1050.6	1051.8	1052.8	1054.0	1055.1	1056.0
155°	1082.4	1083.1	1083.8	1084.5	1085.2	1085.8	1086.5	1087.3	1088.0	1088.6	1089.8
157.5°	1115.4	1115.8	1116.2	1116.7	1117.2	1117.6	1118.0	1118.5	1118.8	1119.3	1120.9
160°	1135.2	1135.7	1136.1	1136.6	1137.1	1137.4	1137.6	1137.9	1138.1	1138.4	1139.7
162.5°	1153.4	1153.5	1153.6	1153.7	1153.9	1154.0	1154.2	1154.4	1154.7	1154.9	1156.5
165°	1177.7	1177.5	1177.2	1177.0	1176.8	1176.7	1176.7	1176.7	1176.7	1176.7	1178.3
167.5°	1198.0	1197.3	1196.6	1196.0	1195.2	1194.9	1194.8	1194.8	1194.7	1194.7	1196.3
170°	1208.8	1208.1	1207.4	1206.7	1206.0	1205.6	1205.3	1205.1	1204.9	1204.6	1206.2
172.5°	1216.2	1215.6	1214.9	1214.2	1213.4	1213.0	1212.8	1212.5	1212.3	1212.1	1213.7
175°	1225.4	1224.7	1224.0	1223.2	1222.6	1222.0	1221.6	1221.1	1220.7	1220.1	1221.8
177.5°	1229.0	1228.5	1228.0	1227.4	1226.9	1226.4	1226.0	1225.7	1225.3	1224.9	1226.0
180°	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	626.1	626.9	627.7	627.9	627.6	627.3	627.0	626.7
5°	624.2	625.4	626.6	627.1	626.9	626.7	626.5	626.2
7.5°	621.2	622.7	624.1	624.7	624.6	624.3	624.1	623.9
10°	618.6	620.2	621.9	622.5	622.3	622.1	622.0	621.7
12.5°	614.2	615.8	617.5	618.1	618.0	617.8	617.6	617.3
15°	606.3	608.1	609.9	610.7	610.6	610.3	610.1	609.9
17.5°	596.0	598.0	599.9	600.8	600.8	600.8	600.8	600.8
20°	588.0	590.2	592.4	593.5	593.5	593.5	593.5	593.5
22.5°	579.3	581.5	583.6	585.0	585.2	585.6	585.9	586.2
25°	565.6	568.0	570.4	571.9	572.6	573.2	573.8	574.4
27.5°	550.5	553.6	556.7	558.4	558.8	559.3	559.7	560.2
30°	539.9	543.1	546.4	548.3	548.9	549.6	550.1	550.7
32.5°	528.5	532.3	535.9	538.3	539.5	540.6	541.6	542.7
35°	512.3	516.7	521.2	524.1	525.6	527.0	528.3	529.8
37.5°	495.6	500.5	505.5	508.7	510.2	511.7	513.2	514.7
40°	483.8	489.1	494.4	497.9	499.7	501.6	503.4	505.2
42.5°	472.4	478.2	483.9	487.8	489.5	491.4	493.2	495.0
45°	455.0	461.2	467.5	471.6	473.7	475.7	477.7	479.7
47.5°	436.8	443.4	449.9	454.2	456.5	458.7	460.9	463.2
50°	424.3	431.1	438.1	442.6	444.9	447.1	449.2	451.5
52.5°	410.8	417.9	424.9	429.6	431.9	434.4	436.8	439.2
55°	390.5	397.8	405.1	410.0	412.7	415.3	417.9	420.5
57.5°	369.1	376.9	384.8	390.0	392.7	395.4	398.1	400.7
60°	354.9	362.6	370.3	375.6	378.4	381.2	384.1	386.9
62.5°	339.8	348.0	356.2	361.7	364.3	366.9	369.6	372.3
65°	317.0	325.3	333.6	339.0	341.7	344.3	347.0	349.6
67.5°	293.8	302.2	310.6	316.2	318.9	321.6	324.4	327.2
70°	277.8	286.4	295.2	300.7	303.1	305.6	308.0	310.4
72.5°	262.2	270.6	279.2	284.9	287.8	290.8	293.6	296.6
75°	238.6	247.3	256.0	261.6	264.3	266.9	269.6	272.2
77.5°	215.6	224.3	232.9	238.6	241.5	244.3	247.1	249.9
80°	199.9	208.5	217.0	222.7	225.4	228.3	231.1	234.0
82.5°	185.4	193.9	202.4	207.9	210.6	213.3	216.0	218.6
85°	164.4	173.0	181.5	187.1	189.9	192.8	195.6	198.4
87.5°	153.9	162.1	170.2	175.7	178.3	180.9	183.5	186.2
90°	171.7	179.3	186.9	192.1	194.7	197.4	200.1	202.7
92.5°	162.6	170.6	178.6	183.9	186.4	188.9	191.3	193.8
95°	186.4	194.0	201.7	206.5	208.5	210.4	212.5	214.5
97.5°	223.3	230.8	238.3	243.2	245.5	247.8	250.2	252.5
100°	249.0	256.5	263.9	268.7	270.6	272.6	274.6	276.6
102.5°	277.9	285.3	292.8	297.7	299.6	301.6	303.6	305.6
105°	321.3	328.8	336.4	341.2	343.4	345.6	347.9	350.1
107.5°	368.8	375.8	382.7	386.8	388.0	389.1	390.3	391.5
110°	401.5	408.0	414.5	418.5	420.0	421.5	423.1	424.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	434.3	440.2	446.1	450.0	451.7	453.3	455.1	456.8
115°	484.7	490.6	496.4	500.2	501.7	503.2	504.7	506.2
117.5°	533.2	538.7	544.1	547.5	548.9	550.3	551.6	553.0
120°	565.8	571.5	577.1	580.7	582.3	583.8	585.3	586.8
122.5°	599.8	604.8	609.7	612.9	614.2	615.6	617.1	618.4
125°	649.5	654.3	659.1	662.3	663.9	665.5	667.0	668.6
127.5°	697.8	702.0	706.1	708.7	709.8	710.9	711.9	712.9
130°	731.1	735.5	739.9	742.4	743.2	743.8	744.5	745.2
132.5°	763.4	767.0	770.8	773.0	773.9	774.8	775.7	776.6
135°	811.5	815.5	819.5	822.0	822.9	823.9	824.7	825.7
137.5°	857.5	860.9	864.5	866.5	866.9	867.5	867.9	868.3
140°	888.7	892.0	895.2	897.0	897.2	897.5	897.9	898.1
142.5°	917.8	920.6	923.4	924.8	925.0	925.1	925.2	925.3
145°	963.0	964.5	966.0	966.7	966.8	966.9	967.0	967.1
147.5°	1003.4	1004.1	1004.7	1004.9	1004.4	1004.1	1003.7	1003.3
150°	1029.9	1030.6	1031.4	1031.4	1030.6	1029.9	1029.2	1028.6
152.5°	1056.9	1057.7	1058.5	1058.5	1057.7	1056.9	1056.0	1055.1
155°	1090.9	1092.1	1093.2	1093.4	1092.8	1092.1	1091.4	1090.7
157.5°	1122.4	1124.0	1125.5	1125.8	1124.6	1123.6	1122.5	1121.3
160°	1141.1	1142.5	1143.9	1144.1	1143.2	1142.3	1141.3	1140.4
162.5°	1158.1	1159.6	1161.2	1161.4	1160.3	1159.2	1158.1	1157.0
165°	1179.9	1181.5	1183.1	1183.3	1182.2	1181.1	1179.9	1178.8
167.5°	1197.9	1199.5	1201.1	1201.3	1200.2	1198.9	1197.7	1196.6
170°	1207.8	1209.4	1211.0	1211.2	1209.8	1208.4	1207.0	1205.7
172.5°	1215.3	1216.9	1218.5	1218.6	1217.3	1215.8	1214.5	1213.1
175°	1223.4	1225.0	1226.6	1226.7	1225.4	1224.0	1222.6	1221.2
177.5°	1227.2	1228.2	1229.3	1229.3	1228.2	1227.2	1226.0	1224.9
180°	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4	1227.4

(END OF REPORT)