

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: P331987-840

Luminaire Tested: **S123DIP-S775D1025U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331987-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S775D1025U840-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7012.3 lumens
Efficiency: N/A
Efficacy: 134.9 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

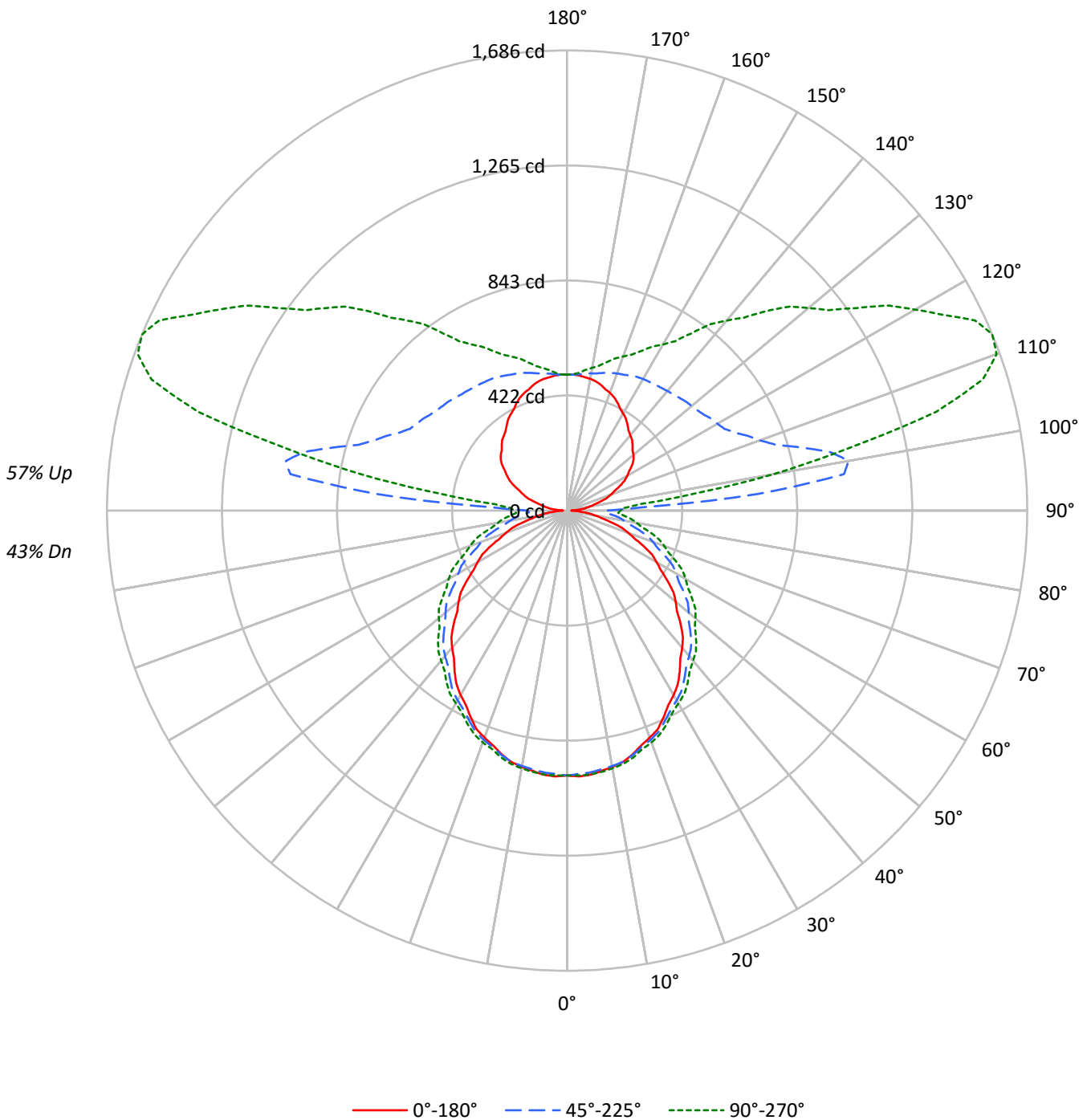
Input Watts (W): 52
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43
1	95	91	86	83	87	83	79	76	68	65	63	55	53	51	42	41	40	34
2	86	79	72	67	78	72	66	62	59	55	52	47	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	32	30	28	23
4	72	61	52	46	65	55	48	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	20	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	20	17	19	16	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	10
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10449	10449	10449
5°	10481	10185	10191
10°	10387	9951	9901
15°	10253	9685	9584
20°	10061	9380	9236
25°	9826	9030	8869
30°	9583	8714	8498
35°	9312	8382	8201
40°	9054	8079	7884
45°	8767	7788	7630
50°	8484	7501	7350
55°	8172	7206	7099
60°	7867	6907	6840
65°	7553	6588	6534
70°	7082	6231	6219
75°	6487	5819	5899
80°	5804	5417	5533
85°	5167	5142	5320



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	1.3
10°-20°	262.3	3.7
20°-30°	392.3	5.6
30°-40°	468.5	6.7
40°-50°	490.2	7.0
50°-60°	460.0	6.6
60°-70°	384.2	5.5
70°-80°	274.9	3.9
80°-90°	167.8	2.4
90°-100°	380.0	5.4
100°-110°	860.3	12.3
110°-120°	822.4	11.7
120°-130°	644.6	9.2
130°-140°	498.4	7.1
140°-150°	365.1	5.2
150°-160°	252.6	3.6
160°-170°	148.4	2.1
170°-180°	48.3	0.7
0°-30°	746.7	10.6
0°-40°	1215.2	17.3
0°-60°	2165.4	30.9
0°-90°	2992.3	42.7
90°-120°	2062.7	29.4
90°-150°	3570.7	50.9
90°-180°	4020.0	57.3
0°-180°	7012.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	972	969	963	971	971	92
15°	925	928	927	937	937	260
25°	835	846	849	862	863	385
35°	719	736	750	765	770	450
45°	588	613	640	659	668	453
55°	448	483	521	549	558	401
65°	310	351	398	428	440	306
75°	168	218	271	304	318	180
85°	52	105	161	195	207	54
90°	16	78	145	182	195	12
95°	46	165	702	311	265	46
105°	125	208	890	1525	1401	133
115°	212	277	676	1440	1649	210
125°	290	344	612	1104	1293	258
135°	339	404	583	894	1034	262
145°	385	440	564	716	792	241
155°	436	471	545	620	646	201
165°	477	490	522	554	564	134
175°	497	498	501	508	507	47
180°	498	498	498	498	498	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	974.9	974.3	973.8	973.2	972.7	971.6	970.2	968.7	967.1	965.6	967.1
5°	971.8	971.3	970.8	970.4	969.9	969.0	967.6	966.1	964.7	963.3	965.2
7.5°	962.2	962.3	962.4	962.5	962.6	962.0	960.6	959.3	957.9	956.5	958.9
10°	953.8	954.2	954.7	955.2	955.6	955.3	954.1	953.0	951.8	950.6	953.0
12.5°	943.6	944.3	944.9	945.6	946.2	946.2	945.4	944.6	943.8	943.0	945.1
15°	925.2	925.9	926.7	927.4	928.1	928.3	928.1	927.9	927.6	927.4	929.7
17.5°	902.0	903.4	904.8	906.2	907.6	908.3	908.2	908.1	908.0	907.9	910.0
20°	885.0	886.5	887.9	889.3	890.7	891.6	892.1	892.6	893.0	893.5	895.6
22.5°	867.3	868.7	870.1	871.5	872.9	873.9	874.6	875.3	876.0	876.6	879.3
25°	835.4	837.7	840.0	842.4	844.8	846.3	847.0	847.7	848.4	849.1	852.1
27.5°	803.2	805.9	808.6	811.2	814.0	816.0	817.5	819.0	820.5	822.0	824.7
30°	780.3	783.5	786.5	789.5	792.5	795.1	796.9	798.8	800.7	802.5	805.4
32.5°	755.0	758.4	761.8	765.3	768.7	771.6	774.1	776.6	779.0	781.4	784.5
35°	719.0	722.8	726.6	730.3	734.1	737.5	740.5	743.6	746.7	749.7	753.3
37.5°	681.0	685.2	689.4	693.7	697.9	701.9	705.7	709.4	713.2	716.9	720.9
40°	655.6	659.8	664.1	668.3	672.5	677.0	681.7	686.4	691.1	695.8	699.7
42.5°	627.6	632.9	638.0	643.2	648.3	653.4	658.2	663.2	668.0	673.0	677.3
45°	587.9	593.6	599.2	604.8	610.5	616.2	622.1	627.9	633.9	639.7	644.2
47.5°	546.2	552.7	559.1	565.4	571.8	578.3	585.1	591.8	598.5	605.2	610.3
50°	519.2	525.7	532.3	539.0	545.5	552.4	559.8	567.0	574.3	581.6	586.9
52.5°	490.4	497.4	504.3	511.3	518.3	525.7	533.8	541.8	549.9	557.8	563.5
55°	448.4	456.1	463.8	471.6	479.4	487.5	495.9	504.4	512.8	521.3	527.7
57.5°	407.3	415.4	423.4	431.5	439.7	448.3	457.6	466.9	476.1	485.3	491.7
60°	378.6	387.0	395.5	403.9	412.4	421.4	431.1	440.7	450.3	460.0	466.6
62.5°	351.4	360.1	368.8	377.4	386.1	395.5	405.7	415.9	426.1	436.3	442.8
65°	309.8	319.0	328.1	337.3	346.5	356.2	366.6	376.9	387.3	397.6	404.7
67.5°	267.5	277.2	287.0	296.7	306.4	316.6	327.1	337.6	348.1	358.7	366.4
70°	237.9	248.0	258.1	268.2	278.3	289.0	300.3	311.5	322.9	334.2	341.6
72.5°	210.9	221.0	231.1	241.2	251.3	262.2	273.8	285.5	297.1	308.7	316.5
75°	168.1	179.2	190.3	201.3	212.3	223.7	235.4	247.2	258.9	270.7	278.4
77.5°	130.9	142.1	153.2	164.3	175.4	186.9	198.8	210.7	222.5	234.3	242.5
80°	104.7	116.2	127.7	139.3	150.8	162.6	174.8	187.0	199.2	211.5	219.4
82.5°	81.8	93.5	105.2	116.9	128.7	140.7	153.1	165.5	177.9	190.4	198.3
85°	51.8	63.5	75.3	87.1	98.8	110.9	123.4	135.8	148.2	160.8	168.7
87.5°	28.6	40.6	52.7	65.0	77.2	89.4	102.0	114.6	127.1	139.8	147.5
90°	15.8	29.3	42.8	57.4	70.9	84.6	99.7	114.7	129.7	144.7	151.7
92.5°	25.4	41.8	60.7	79.0	97.8	123.8	162.0	217.1	271.5	267.7	237.4
95°	45.9	58.1	78.4	104.6	140.1	189.7	286.9	448.6	625.4	702.5	596.8
97.5°	68.9	78.1	95.0	118.3	152.3	204.5	297.3	477.7	764.3	1023.4	1095.2
100°	84.1	92.6	107.2	128.9	160.6	209.0	290.4	450.4	726.3	1046.6	1252.0
102.5°	100.2	108.8	121.8	141.9	170.4	215.2	289.1	426.4	673.1	989.1	1254.8
105°	125.4	134.0	145.7	163.5	188.2	227.4	292.0	405.9	606.5	889.8	1185.7
107.5°	151.2	159.0	169.6	186.3	209.0	245.2	302.7	398.5	561.7	801.3	1070.3
110°	169.7	176.9	186.1	201.5	222.9	257.9	312.7	398.7	543.1	751.1	998.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	187.4	193.9	202.4	217.0	237.6	271.2	322.4	402.4	530.4	715.4	934.0
115°	212.0	218.7	227.6	240.5	260.5	293.4	340.1	410.1	521.4	676.0	856.0
117.5°	237.3	243.7	250.4	261.5	282.4	312.5	358.3	421.0	516.2	649.2	805.6
120°	254.2	258.4	264.6	275.9	296.2	325.9	369.9	430.1	515.4	636.1	778.6
122.5°	269.5	273.2	278.8	290.3	309.3	340.1	382.9	438.7	517.3	626.2	755.7
125°	290.4	292.5	298.5	309.6	328.8	359.4	401.5	452.6	520.0	612.5	725.3
127.5°	307.2	310.0	317.2	328.3	349.2	379.1	418.8	464.3	524.4	602.5	697.6
130°	317.7	320.4	329.3	341.1	362.1	391.5	429.5	472.5	527.7	595.8	682.0
132.5°	324.9	328.7	338.5	352.9	374.1	402.3	438.6	479.9	529.2	590.8	667.0
135°	338.8	342.5	353.5	368.3	389.3	417.7	451.5	488.4	531.3	583.2	646.9
137.5°	351.9	356.0	366.7	382.5	403.3	429.2	460.7	494.8	532.1	575.9	629.4
140°	359.9	365.0	375.1	391.1	411.3	436.9	466.9	497.8	532.7	571.8	618.6
142.5°	369.6	373.7	384.4	398.7	418.6	442.2	470.8	500.4	532.3	566.7	608.4
145°	385.2	387.9	396.8	411.6	428.5	451.6	477.8	505.0	533.2	563.5	597.6
147.5°	399.8	401.6	410.5	423.5	440.1	459.9	483.8	508.3	533.2	559.7	587.8
150°	410.3	411.3	419.3	432.4	446.6	464.7	487.9	509.1	533.2	556.4	581.6
152.5°	420.7	420.9	429.0	440.5	453.0	470.4	490.3	510.7	530.8	552.4	575.2
155°	436.5	436.5	442.5	452.6	463.7	477.8	494.9	511.1	528.2	545.3	565.5
157.5°	449.0	449.8	454.6	463.5	472.9	483.8	497.6	512.1	524.8	539.1	554.6
160°	458.7	458.7	462.7	470.7	477.8	487.9	500.0	512.1	523.2	534.2	547.3
162.5°	466.0	466.0	469.2	475.5	481.8	490.3	500.8	511.3	520.0	529.4	540.1
165°	476.8	475.7	477.8	482.8	486.9	493.9	502.0	509.1	515.1	522.2	530.2
167.5°	485.0	483.8	484.8	488.7	491.5	495.9	501.8	507.5	510.3	514.9	520.8
170°	489.9	487.9	488.9	491.9	493.9	495.9	501.0	505.0	507.1	510.1	515.1
172.5°	493.1	491.9	492.1	494.3	495.5	496.8	501.0	504.2	504.6	506.0	509.5
175°	497.0	495.9	494.9	497.0	497.0	498.0	500.0	502.0	501.0	501.0	503.0
177.5°	498.8	498.0	497.2	498.0	498.0	498.0	498.8	500.4	498.8	498.0	498.8
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	970.7	970.7	970.7	970.7	970.7	970.7	970.7	970.7
2.5°	968.7	970.2	971.6	972.3	972.1	971.9	971.7	971.6
5°	967.0	969.0	970.8	971.6	971.4	971.2	971.0	970.7
7.5°	961.2	963.6	965.9	966.9	966.6	966.4	966.1	965.8
10°	955.3	957.7	960.0	961.0	960.5	960.0	959.6	959.1
12.5°	947.4	949.5	951.6	952.5	952.0	951.6	951.1	950.6
15°	932.0	934.4	936.8	937.8	937.6	937.4	937.1	936.9
17.5°	912.1	914.2	916.4	917.3	917.0	916.6	916.3	915.9
20°	897.8	899.9	902.0	903.1	903.4	903.6	903.8	904.1
22.5°	881.9	884.6	887.3	888.6	888.5	888.3	888.2	888.0
25°	855.3	858.3	861.3	862.8	862.8	862.8	862.8	862.8
27.5°	827.3	829.9	832.5	833.9	834.1	834.4	834.6	834.8
30°	808.2	811.0	813.9	815.3	815.3	815.3	815.3	815.3
32.5°	787.4	790.4	793.5	795.3	795.8	796.4	796.9	797.5
35°	756.8	760.3	763.8	766.1	767.0	767.9	768.8	769.8
37.5°	724.9	728.9	732.9	735.3	736.0	736.8	737.5	738.3
40°	703.8	707.7	711.8	714.2	715.2	716.1	717.0	718.0
42.5°	681.7	686.0	690.4	693.3	694.6	695.9	697.2	698.5
45°	648.6	653.1	657.6	660.8	662.7	664.5	666.4	668.3
47.5°	615.3	620.4	625.4	628.6	630.1	631.6	633.0	634.4
50°	592.4	597.7	603.2	606.7	608.3	610.0	611.7	613.3
52.5°	569.1	574.7	580.3	584.1	586.1	588.1	590.2	592.2
55°	534.0	540.4	546.6	550.8	552.7	554.5	556.4	558.4
57.5°	498.2	504.5	510.9	515.2	517.5	519.7	521.8	524.0
60°	473.1	479.7	486.3	490.9	493.4	496.0	498.7	501.2
62.5°	449.5	456.1	462.6	467.1	469.5	471.9	474.3	476.7
65°	411.7	418.7	425.8	430.5	432.8	435.2	437.6	439.9
67.5°	374.1	381.8	389.5	394.4	396.3	398.3	400.3	402.2
70°	349.2	356.7	364.3	369.1	371.5	373.9	376.2	378.6
72.5°	324.2	331.8	339.6	344.7	347.0	349.3	351.6	354.1
75°	286.2	294.0	301.7	307.0	309.8	312.7	315.5	318.3
77.5°	250.6	258.8	267.0	272.2	274.4	276.5	278.7	280.8
80°	227.4	235.4	243.5	248.6	251.0	253.3	255.7	258.0
82.5°	206.3	214.3	222.3	227.4	229.8	232.2	234.5	236.8
85°	176.7	184.7	192.7	197.8	200.2	202.6	204.9	207.2
87.5°	155.7	163.9	172.1	177.7	179.9	182.4	184.9	187.1
90°	160.7	169.7	178.6	185.8	187.2	190.6	193.9	195.2
92.5°	213.2	203.5	203.4	203.2	203.5	202.6	205.8	206.1
95°	482.1	372.5	326.4	294.9	278.1	271.4	266.6	265.0
97.5°	1015.7	842.6	719.6	603.7	531.7	488.7	463.8	457.5
100°	1294.0	1219.2	1108.1	969.6	870.1	798.9	761.9	765.3
102.5°	1383.0	1386.9	1324.8	1238.6	1161.7	1105.8	1075.3	1054.5
105°	1402.9	1510.3	1536.0	1514.2	1469.9	1433.7	1403.6	1400.7
107.5°	1315.5	1485.5	1580.1	1620.1	1623.1	1612.2	1603.4	1596.2
110°	1235.1	1426.6	1559.8	1634.4	1664.5	1674.4	1674.3	1674.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1154.7	1350.1	1498.3	1593.1	1646.7	1673.8	1683.5	1686.0
115°	1048.1	1229.2	1383.0	1496.6	1574.1	1620.3	1642.3	1649.3
117.5°	968.7	1125.7	1264.4	1379.5	1460.2	1512.8	1543.7	1552.4
120°	926.1	1067.6	1194.0	1299.4	1380.6	1438.8	1464.5	1472.3
122.5°	891.7	1020.1	1137.4	1235.4	1307.8	1360.3	1388.6	1397.9
125°	845.1	959.9	1061.6	1145.5	1211.7	1257.7	1284.5	1293.2
127.5°	803.5	906.2	998.0	1074.6	1133.7	1173.2	1197.5	1205.6
130°	777.1	872.3	958.5	1029.9	1084.7	1122.5	1145.0	1154.5
132.5°	752.3	840.1	920.4	988.7	1040.5	1078.3	1098.6	1105.9
135°	718.7	794.5	864.2	924.4	975.0	1006.4	1025.7	1033.9
137.5°	687.8	750.1	810.3	862.6	905.2	937.1	953.6	959.4
140°	669.5	724.5	776.4	822.0	861.5	890.9	908.3	908.4
142.5°	651.7	698.9	744.1	784.0	817.8	843.9	859.6	859.8
145°	631.8	666.9	701.0	731.6	757.8	779.9	788.9	791.9
147.5°	615.6	642.6	669.1	690.6	710.6	725.8	734.3	736.0
150°	604.8	628.0	649.1	668.5	684.2	695.7	702.3	702.7
152.5°	595.9	615.9	634.7	650.7	662.6	673.0	676.7	676.8
155°	582.6	598.7	613.9	626.0	635.1	643.1	645.1	646.1
157.5°	568.6	582.0	593.7	603.2	611.1	617.1	618.7	618.5
160°	560.5	571.6	581.6	588.7	595.7	601.8	601.8	600.8
162.5°	550.8	560.3	569.6	575.8	580.5	585.6	585.6	584.6
165°	538.3	544.3	551.4	556.4	560.5	564.5	563.5	563.5
167.5°	527.4	532.0	536.0	539.7	541.5	544.3	543.3	543.3
170°	520.2	523.2	527.1	529.2	530.2	532.2	531.2	531.2
172.5°	513.7	515.9	519.2	520.4	520.6	522.6	520.8	520.0
175°	505.0	506.0	508.1	508.1	508.1	509.1	508.1	507.1
177.5°	499.6	500.4	501.2	501.2	500.4	501.2	499.6	499.6
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0

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