

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: P332293

Luminaire Tested: **S123RDIP-S560D1025U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332293
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: S123RDIP-S560D1025U835-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5847.4 lumens
Efficiency: N/A
Efficacy: 131.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

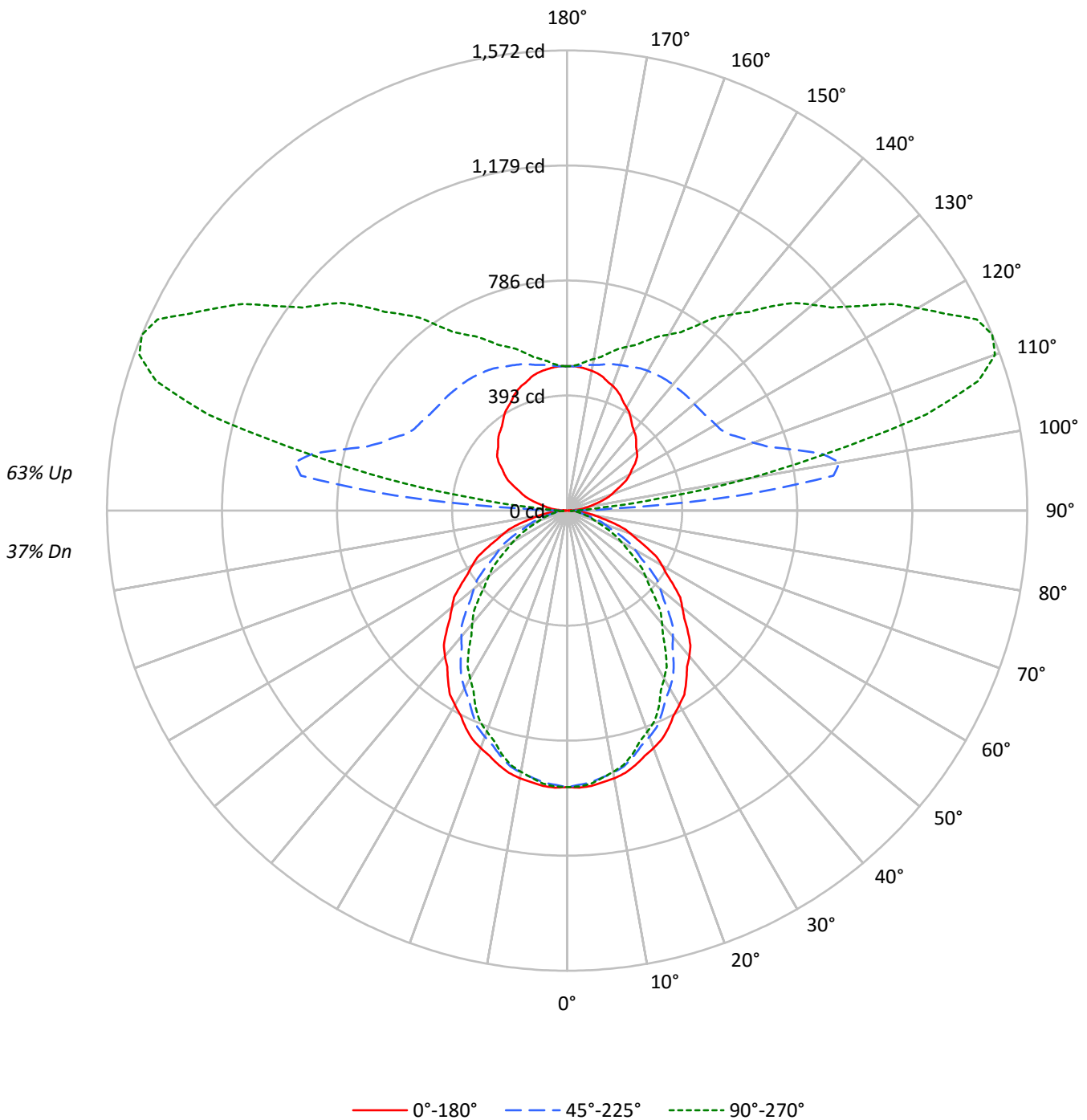
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	95	91	87	84	86	82	79	76	67	65	63	52	51	50	39	38	37	31
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	35	33	32	27
3	79	70	63	57	71	64	58	53	52	48	44	41	38	36	31	29	27	23
4	72	62	55	49	65	57	50	45	46	41	38	37	33	31	28	26	24	20
5	67	55	48	42	60	51	44	39	41	36	33	33	29	27	25	23	21	17
6	61	50	42	36	55	45	39	34	37	32	28	30	26	23	23	20	18	15
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10167	10167	10167
5°	10205	10065	10122
10°	10147	9939	9905
15°	10038	9706	9604
20°	9889	9415	9196
25°	9734	9089	8797
30°	9531	8712	8236
35°	9320	8335	7720
40°	9128	7890	7082
45°	8873	7451	6506
50°	8594	6953	5863
55°	8310	6382	5262
60°	8047	5772	4600
65°	7707	5112	3940
70°	7279	4293	3182
75°	6658	3377	2994
80°	5938	2994	2752
85°	5014	2643	2458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	1.5
10°-20°	246.8	4.2
20°-30°	355.3	6.1
30°-40°	400.3	6.8
40°-50°	382.9	6.5
50°-60°	313.6	5.4
60°-70°	211.6	3.6
70°-80°	106.4	1.8
80°-90°	32.0	0.5
90°-100°	274.4	4.7
100°-110°	777.0	13.3
110°-120°	764.4	13.1
120°-130°	609.7	10.4
130°-140°	480.7	8.2
140°-150°	358.8	6.1
150°-160°	250.1	4.3
160°-170°	146.9	2.5
170°-180°	47.8	0.8
0°-30°	690.8	11.8
0°-40°	1091.1	18.7
0°-60°	1787.6	30.6
0°-90°	2137.5	36.6
90°-120°	1815.8	31.1
90°-150°	3265.1	55.8
90°-180°	3710.0	63.4
0°-180°	5847.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	944	940	932	938	937	90
15°	901	892	871	867	862	254
25°	820	800	765	750	741	377
35°	709	681	634	602	588	444
45°	583	547	490	447	427	450
55°	443	404	340	297	280	397
65°	303	259	201	165	155	299
75°	160	123	81	74	72	171
85°	41	25	21	20	20	46
90°	2	12	25	28	29	4
95°	34	110	592	173	116	37
105°	116	171	802	1403	1270	123
115°	205	255	614	1346	1544	203
125°	284	336	573	1038	1218	252
135°	333	398	565	855	987	258
145°	380	436	558	701	772	238
155°	432	466	540	614	640	199
165°	472	486	517	548	558	133
175°	492	493	496	503	502	47
180°	493	493	493	493	493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	947.6	947.0	946.5	945.9	945.4	944.3	942.7	941.0	939.4	937.8	939.3
5°	944.5	943.7	942.8	942.0	941.1	939.7	937.6	935.6	933.5	931.5	933.0
7.5°	935.8	934.9	933.9	933.0	932.1	930.3	927.7	925.0	922.3	919.7	920.5
10°	928.4	927.2	926.0	924.8	923.7	921.5	918.5	915.4	912.3	909.3	909.4
12.5°	918.0	916.7	915.3	914.0	912.7	910.2	906.4	902.7	898.9	895.2	895.1
15°	900.8	899.0	897.1	895.2	893.4	890.0	885.3	880.5	875.7	871.0	870.1
17.5°	879.2	877.1	874.9	872.7	870.5	866.4	860.3	854.3	848.2	842.2	840.4
20°	863.3	860.6	857.9	855.1	852.4	847.8	841.3	834.9	828.4	821.9	819.7
22.5°	845.5	842.4	839.3	836.1	833.0	828.0	821.1	814.2	807.4	800.5	797.7
25°	819.6	815.4	811.1	806.9	802.6	796.6	788.7	780.9	773.1	765.3	761.7
27.5°	788.2	783.5	778.8	774.1	769.4	762.7	754.0	745.3	736.6	727.9	722.9
30°	766.8	761.7	756.6	751.5	746.4	739.0	729.5	720.0	710.4	700.9	695.1
32.5°	745.3	739.6	733.8	728.0	722.2	714.3	704.2	694.1	684.0	673.9	667.6
35°	709.3	703.2	697.1	691.0	684.8	676.5	665.9	655.4	644.8	634.3	626.9
37.5°	672.9	666.1	659.3	652.4	645.6	636.6	625.3	614.1	602.8	591.5	583.2
40°	649.6	642.1	634.6	627.1	619.6	609.8	597.8	585.7	573.6	561.5	552.6
42.5°	623.2	615.7	608.3	600.8	593.3	583.3	570.8	558.3	545.8	533.3	523.6
45°	582.9	575.3	567.6	560.0	552.3	541.9	528.8	515.7	502.6	489.5	479.8
47.5°	542.6	534.2	525.8	517.4	509.0	498.3	485.1	472.0	458.9	445.8	435.3
50°	513.2	505.2	497.2	489.2	481.2	470.3	456.5	442.8	429.0	415.2	404.6
52.5°	486.9	478.2	469.5	460.8	452.2	441.0	427.3	413.7	400.0	386.4	375.4
55°	442.8	434.4	426.1	417.7	409.4	398.0	383.5	369.1	354.6	340.1	330.2
57.5°	402.0	392.9	383.8	374.7	365.6	353.8	339.3	324.8	310.2	295.7	286.4
60°	373.8	364.5	355.1	345.7	336.4	324.6	310.5	296.4	282.2	268.1	258.9
62.5°	345.6	336.3	326.9	317.5	308.2	296.4	282.3	268.2	254.0	239.9	231.3
65°	302.6	293.2	283.9	274.5	265.1	253.8	240.5	227.3	214.0	200.7	192.4
67.5°	259.5	250.1	240.6	231.1	221.7	210.6	197.8	185.1	172.4	159.6	153.4
70°	231.3	222.1	213.0	203.8	194.6	184.0	172.1	160.2	148.3	136.4	130.4
72.5°	203.1	194.1	185.0	176.0	166.9	157.0	146.2	135.3	124.5	113.7	108.8
75°	160.1	151.9	143.8	135.6	127.4	118.6	109.3	99.9	90.6	81.2	79.5
77.5°	120.9	113.5	106.1	98.7	91.3	84.6	78.6	72.6	66.5	60.5	59.6
80°	95.8	88.8	81.8	74.8	67.8	62.6	59.0	55.4	51.8	48.3	47.7
82.5°	71.9	65.8	59.8	53.8	47.7	43.9	42.2	40.6	38.9	37.2	36.7
85°	40.6	36.9	33.1	29.4	25.6	23.5	23.0	22.5	22.0	21.4	21.1
87.5°	15.1	14.0	12.9	12.0	10.9	10.6	11.2	11.8	12.4	13.0	12.6
90°	2.0	4.0	6.0	9.0	11.0	13.0	16.0	19.0	22.0	25.0	24.0
92.5°	12.4	18.4	26.8	34.5	42.9	57.7	83.8	126.8	168.9	153.5	115.8
95°	33.9	36.9	47.9	64.9	90.8	129.8	214.6	363.3	527.0	591.9	480.1
97.5°	57.9	58.9	67.5	82.2	107.8	149.9	231.0	398.7	671.6	917.3	981.4
100°	73.9	74.9	81.9	95.8	119.8	158.7	228.6	376.3	638.8	945.3	1141.9
102.5°	90.6	92.4	98.6	111.8	133.4	169.1	231.8	357.1	590.9	893.4	1149.9
105°	115.8	118.8	124.8	136.8	155.7	186.7	240.6	343.4	532.0	802.5	1089.0
107.5°	142.5	145.5	151.3	163.1	180.9	209.6	256.9	342.4	494.5	722.3	982.4
110°	161.7	164.7	169.7	180.7	197.6	225.6	270.5	346.4	480.1	676.8	915.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.3	182.3	187.3	198.2	215.2	242.4	284.1	354.4	472.1	646.4	857.0
115°	204.6	208.6	214.6	224.6	241.6	268.5	306.4	367.3	469.1	613.9	786.6
117.5°	230.0	234.6	239.6	248.7	267.7	292.7	330.2	384.5	470.9	594.7	744.0
120°	247.5	250.5	255.5	265.5	284.5	309.4	345.4	397.3	474.1	585.9	721.7
122.5°	262.7	265.7	270.7	281.5	299.7	326.2	361.3	409.3	479.7	580.3	703.3
125°	284.5	286.5	292.5	303.4	322.4	349.4	384.3	428.2	488.1	573.0	679.8
127.5°	301.1	304.0	311.4	322.6	343.6	370.5	404.3	443.8	497.7	569.4	659.0
130°	311.4	314.4	323.4	335.4	356.3	383.3	416.2	454.2	504.1	567.0	647.8
132.5°	319.4	323.2	333.0	347.4	368.3	394.5	426.6	463.8	508.9	566.2	637.4
135°	333.4	337.4	348.4	363.3	384.3	411.2	442.2	476.1	516.1	565.0	623.9
137.5°	346.6	350.8	361.5	377.5	398.3	423.2	453.0	485.3	520.8	562.8	612.1
140°	355.4	360.3	370.3	386.3	406.3	431.2	460.2	490.1	524.0	562.0	604.9
142.5°	364.9	369.1	379.9	394.3	414.2	437.6	465.8	494.9	526.4	560.4	598.5
145°	380.3	383.3	392.3	407.3	424.2	447.2	473.1	500.1	528.0	558.0	589.9
147.5°	395.9	397.7	406.5	419.4	435.8	455.4	479.1	503.3	528.0	554.2	581.5
150°	406.3	407.3	415.2	428.2	442.2	460.2	483.1	504.1	528.0	551.0	575.9
152.5°	416.6	416.8	424.8	436.2	448.6	465.8	485.5	505.7	525.6	547.0	569.6
155°	432.2	432.2	438.2	448.2	459.2	473.1	490.1	506.1	523.0	540.0	560.0
157.5°	444.6	445.4	450.2	459.0	468.3	479.1	492.7	507.1	519.7	533.8	549.2
160°	454.2	454.2	458.2	466.1	473.1	483.1	495.1	507.1	518.1	529.0	542.0
162.5°	461.4	461.4	464.6	470.9	477.1	485.5	495.9	506.3	514.9	524.2	534.8
165°	472.1	471.1	473.1	478.1	482.1	489.1	497.1	504.1	510.1	517.1	525.0
167.5°	480.3	479.1	480.1	483.9	486.7	491.1	496.9	502.5	505.3	509.9	515.7
170°	485.1	483.1	484.1	487.1	489.1	491.1	496.1	500.1	502.1	505.1	510.1
172.5°	488.3	487.1	487.3	489.5	490.7	491.9	496.1	499.3	499.7	501.1	504.5
175°	492.1	491.1	490.1	492.1	492.1	493.1	495.1	497.1	496.1	496.1	498.1
177.5°	493.9	493.1	492.3	493.1	493.1	493.1	493.9	495.5	493.9	493.1	493.9
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	940.8	942.3	943.8	944.4	944.1	943.8	943.6	943.3
5°	934.5	936.1	937.6	938.2	937.9	937.5	937.2	936.8
7.5°	921.4	922.2	923.1	923.2	922.6	922.1	921.5	920.9
10°	909.6	909.8	909.9	909.6	908.8	907.9	907.1	906.2
12.5°	895.0	894.9	894.8	894.2	893.2	892.2	891.3	890.3
15°	869.3	868.4	867.6	866.5	865.3	864.2	863.0	861.8
17.5°	838.6	836.8	834.9	833.2	831.4	829.6	827.8	826.1
20°	817.5	815.3	813.1	811.0	808.9	806.9	804.8	802.8
22.5°	795.0	792.2	789.5	787.1	785.2	783.3	781.4	779.5
25°	758.1	754.5	751.0	748.2	746.4	744.5	742.6	740.7
27.5°	717.9	713.0	708.0	704.1	701.2	698.4	695.5	692.6
30°	689.3	683.5	677.8	673.5	670.8	668.1	665.3	662.6
32.5°	661.3	654.9	648.6	644.0	641.2	638.3	635.4	632.6
35°	619.6	612.3	605.0	599.8	596.7	593.7	590.6	587.5
37.5°	574.9	566.6	558.3	552.3	548.5	544.7	540.9	537.1
40°	543.8	534.9	526.1	519.7	515.8	511.9	508.0	504.0
42.5°	514.0	504.3	494.6	488.0	484.5	481.0	477.5	474.0
45°	470.1	460.4	450.7	443.8	439.7	435.6	431.5	427.4
47.5°	424.7	414.2	403.6	396.5	392.9	389.2	385.6	381.9
50°	394.1	383.5	373.0	365.7	361.8	357.9	354.0	350.1
52.5°	364.5	353.5	342.5	335.3	331.8	328.3	324.8	321.3
55°	320.4	310.5	300.6	294.0	290.6	287.2	283.8	280.4
57.5°	277.0	267.7	258.4	252.3	249.4	246.5	243.6	240.7
60°	249.7	240.5	231.3	225.3	222.4	219.5	216.6	213.7
62.5°	222.6	214.0	205.3	199.5	196.5	193.4	190.4	187.4
65°	184.0	175.7	167.3	162.2	160.4	158.5	156.6	154.7
67.5°	147.2	140.9	134.7	130.6	128.6	126.6	124.6	122.6
70°	124.4	118.5	112.5	108.6	106.7	104.9	103.0	101.1
72.5°	103.9	99.1	94.2	91.4	90.6	89.8	89.0	88.2
75°	77.8	76.1	74.4	73.4	73.0	72.7	72.3	72.0
77.5°	58.7	57.8	56.8	56.2	55.9	55.5	55.2	54.8
80°	47.2	46.7	46.2	45.8	45.5	45.1	44.8	44.4
82.5°	36.2	35.7	35.2	34.9	34.8	34.8	34.7	34.6
85°	20.8	20.4	20.1	19.9	19.9	19.9	19.9	19.9
87.5°	12.7	12.7	12.8	13.1	12.7	12.8	12.9	12.5
90°	25.0	26.0	27.0	28.9	27.9	28.9	29.9	28.9
92.5°	84.0	66.7	58.9	53.7	51.9	48.9	49.9	48.1
95°	359.3	243.6	190.7	154.7	135.8	126.8	119.8	115.8
97.5°	895.8	717.5	588.7	469.3	395.7	350.8	323.8	315.2
100°	1176.9	1096.0	979.2	837.5	736.7	663.8	624.9	625.9
102.5°	1270.3	1267.7	1199.6	1109.8	1031.3	973.6	941.1	918.1
105°	1297.6	1397.5	1416.4	1390.5	1344.5	1306.6	1274.7	1269.7
107.5°	1219.0	1381.1	1468.5	1504.1	1504.9	1492.1	1481.3	1472.1
110°	1143.9	1327.6	1453.3	1523.2	1551.2	1559.2	1557.2	1555.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1069.6	1257.3	1398.2	1488.1	1539.2	1563.9	1571.5	1571.9
115°	971.2	1144.9	1291.6	1400.4	1475.3	1519.2	1539.2	1544.2
117.5°	900.0	1049.9	1181.6	1292.0	1370.1	1420.4	1449.2	1455.9
120°	862.4	997.2	1117.0	1217.8	1296.6	1352.5	1376.5	1382.5
122.5°	832.9	954.9	1065.9	1159.5	1229.6	1279.9	1306.2	1313.8
125°	793.6	902.4	998.2	1078.0	1141.9	1185.8	1210.8	1217.8
127.5°	759.2	856.2	942.7	1015.3	1072.2	1109.8	1132.3	1138.7
130°	737.7	827.5	908.3	976.2	1029.1	1065.1	1086.0	1094.0
132.5°	717.7	800.3	875.6	940.3	990.0	1025.9	1044.5	1050.1
135°	690.7	761.6	826.5	883.4	932.3	962.2	980.2	987.2
137.5°	666.2	724.3	780.2	829.5	870.6	901.0	916.1	920.7
140°	651.8	702.7	750.6	793.6	831.5	859.4	875.4	874.4
142.5°	638.2	682.0	723.5	760.8	793.2	817.9	832.3	831.3
145°	621.9	654.8	686.7	715.7	740.6	761.6	769.6	771.6
147.5°	608.5	634.6	660.4	681.0	699.9	714.1	721.7	722.5
150°	598.9	621.9	642.8	661.8	676.8	687.7	693.7	693.7
152.5°	590.1	609.9	628.5	644.2	656.0	666.2	669.8	669.8
155°	576.9	592.9	607.9	619.9	628.9	636.8	638.8	639.8
157.5°	563.0	576.3	587.9	597.3	605.1	611.1	612.7	612.5
160°	555.0	566.0	575.9	582.9	589.9	595.9	595.9	594.9
162.5°	545.4	554.8	564.0	570.2	574.8	579.9	579.9	578.9
165°	533.0	539.0	546.0	551.0	555.0	559.0	558.0	558.0
167.5°	522.2	526.8	530.8	534.4	536.2	539.0	538.0	538.0
170°	515.1	518.1	522.0	524.0	525.0	527.0	526.0	526.0
172.5°	508.7	510.9	514.1	515.3	515.5	517.5	515.7	514.9
175°	500.1	501.1	503.1	503.1	503.1	504.1	503.1	502.1
177.5°	494.7	495.5	496.3	496.3	495.5	496.3	494.7	494.7
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1

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