

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: P332269-830

Luminaire Tested: **S123RDIP-S340D1195U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332269-830
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-S340D1195U830-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5297.5 lumens
Efficiency: N/A
Efficacy: 125.5 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

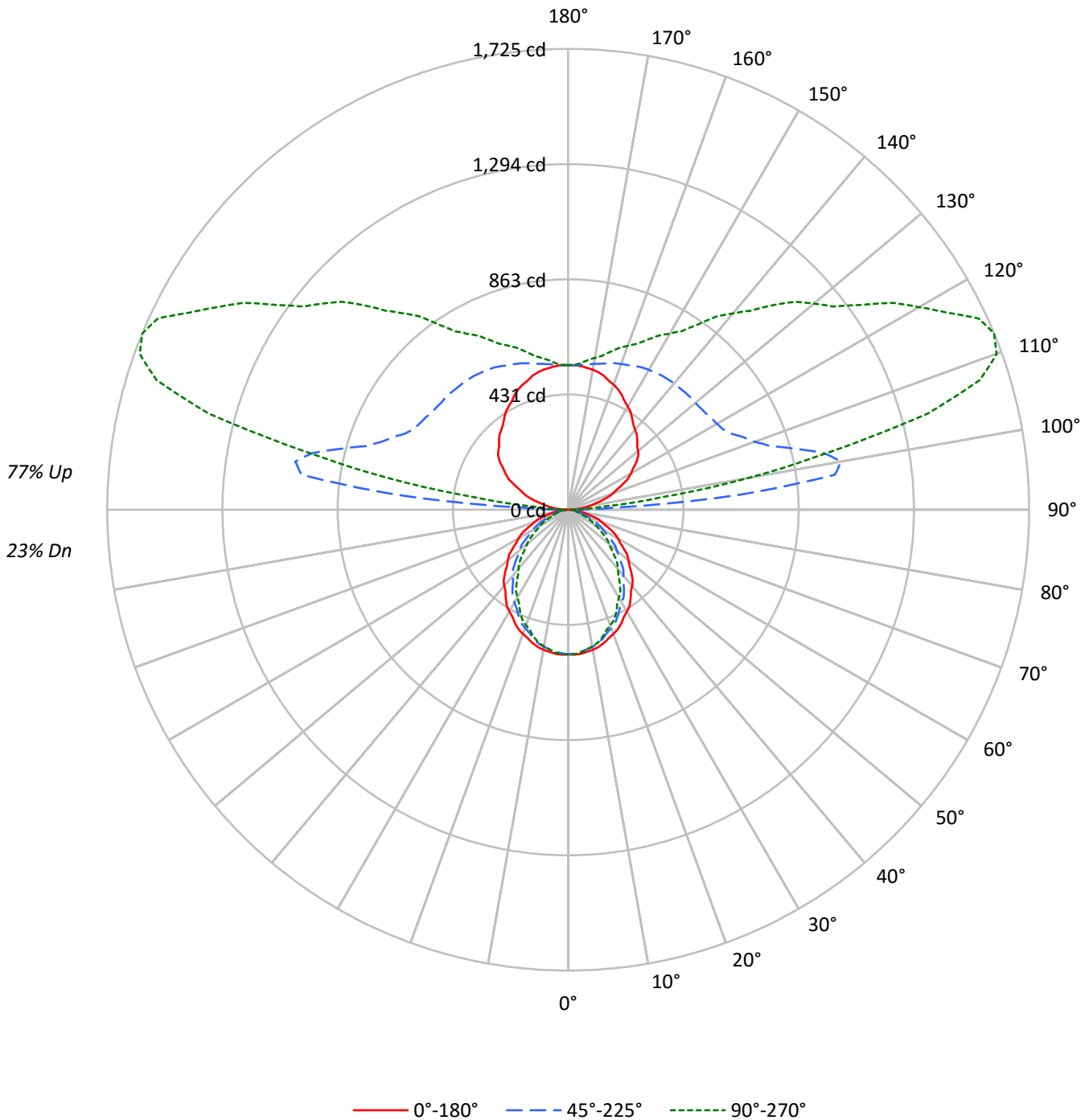
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31
1	92	88	84	81	81	78	75	72	60	58	56	43	42	41	28	27	27
2	84	77	71	66	74	68	64	60	53	49	47	38	36	34	25	24	23
3	76	68	61	55	68	60	54	50	47	43	39	34	31	29	22	21	19
4	70	60	52	47	62	53	47	42	41	37	33	30	27	25	20	18	17
5	64	53	45	40	57	47	41	36	37	32	29	27	24	22	18	16	15
6	59	47	40	34	52	43	36	31	33	28	25	24	21	19	16	14	13
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12
8	50	39	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10
9	47	35	28	23	41	32	25	21	25	20	17	19	15	13	13	11	9
10	44	32	25	21	39	29	23	19	23	18	15	17	14	12	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5829	5829	5829
5°	5851	5770	5804
10°	5818	5698	5678
15°	5756	5565	5506
20°	5669	5399	5271
25°	5582	5211	5044
30°	5464	4994	4721
35°	5344	4778	4427
40°	5233	4523	4061
45°	5087	4271	3731
50°	4928	3985	3361
55°	4763	3659	3016
60°	4613	3309	2637
65°	4419	2932	2259
70°	4173	2458	1825
75°	3818	1938	1718
80°	3403	1717	1574
85°	2878	1519	1408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.9	1.0
10°-20°	141.5	2.7
20°-30°	203.7	3.8
30°-40°	229.5	4.3
40°-50°	219.5	4.1
50°-60°	179.8	3.4
60°-70°	121.3	2.3
70°-80°	61.0	1.2
80°-90°	20.3	0.4
90°-100°	301.1	5.7
100°-110°	852.5	16.1
110°-120°	838.6	15.8
120°-130°	668.9	12.6
130°-140°	527.4	10.0
140°-150°	393.6	7.4
150°-160°	274.4	5.2
160°-170°	161.2	3.0
170°-180°	52.4	1.0
0°-30°	396.1	7.5
0°-40°	625.5	11.8
0°-60°	1024.8	19.3
0°-90°	1227.5	23.2
90°-120°	1992.1	37.6
90°-150°	3582.0	67.6
90°-180°	4070.0	76.8
0°-180°	5297.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	539	534	538	537	51
15°	516	511	499	497	494	145
25°	470	458	439	430	425	216
35°	407	390	364	345	337	254
45°	334	314	281	256	245	258
55°	254	231	195	170	161	228
65°	174	149	115	94	89	172
75°	92	71	47	42	41	98
85°	23	14	12	11	11	26
90°	2	13	27	31	32	4
95°	37	121	649	190	127	40
105°	127	188	880	1540	1393	135
115°	224	280	673	1477	1694	222
125°	312	368	629	1139	1336	277
135°	366	436	620	938	1083	283
145°	417	478	612	769	846	261
155°	474	511	592	673	702	218
165°	518	533	567	602	612	146
175°	540	540	544	552	551	51
180°	541	541	541	541	541	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	543.3	542.9	542.6	542.3	542.1	541.4	540.5	539.5	538.6	537.6	538.5
5°	541.5	541.0	540.5	540.1	539.5	538.8	537.5	536.4	535.2	534.0	534.9
7.5°	536.5	535.9	535.5	534.9	534.4	533.4	531.9	530.4	528.8	527.3	527.7
10°	532.3	531.6	530.9	530.3	529.5	528.3	526.6	524.8	523.0	521.3	521.4
12.5°	526.3	525.6	524.8	524.1	523.3	521.8	519.6	517.6	515.4	513.2	513.1
15°	516.5	515.4	514.3	513.2	512.2	510.3	507.6	504.8	502.1	499.4	498.9
17.5°	504.1	502.8	501.6	500.3	499.1	496.7	493.2	489.7	486.4	482.9	481.8
20°	494.9	493.4	491.8	490.3	488.7	486.1	482.4	478.6	474.9	471.3	470.0
22.5°	484.7	483.0	481.2	479.4	477.6	474.8	470.8	466.8	462.9	458.9	457.3
25°	470.0	467.5	465.1	462.6	460.1	456.7	452.2	447.7	443.2	438.8	436.7
27.5°	451.9	449.2	446.5	443.8	441.1	437.3	432.3	427.3	422.3	417.3	414.4
30°	439.6	436.7	433.8	430.8	427.9	423.7	418.2	412.7	407.3	401.8	398.5
32.5°	427.3	424.0	420.7	417.4	414.1	409.5	403.7	397.9	392.2	386.3	382.8
35°	406.7	403.1	399.6	396.2	392.7	387.9	381.8	375.7	369.7	363.6	359.5
37.5°	385.8	381.8	378.0	374.1	370.1	365.0	358.5	352.0	345.6	339.1	334.4
40°	372.4	368.2	363.8	359.6	355.2	349.6	342.7	335.7	328.9	321.9	316.9
42.5°	357.3	353.0	348.7	344.4	340.2	334.4	327.3	320.1	312.9	305.8	300.2
45°	334.2	329.8	325.5	321.0	316.6	310.7	303.2	295.7	288.1	280.6	275.0
47.5°	311.1	306.3	301.4	296.6	291.8	285.7	278.1	270.6	263.2	255.6	249.6
50°	294.3	289.6	285.1	280.5	275.9	269.7	261.7	253.8	245.9	238.0	232.0
52.5°	279.2	274.2	269.2	264.2	259.2	252.8	245.0	237.1	229.3	221.5	215.3
55°	253.8	249.0	244.3	239.5	234.7	228.2	219.9	211.6	203.3	195.0	189.4
57.5°	230.5	225.3	220.1	214.8	209.6	202.8	194.5	186.2	177.9	169.6	164.2
60°	214.3	209.0	203.6	198.2	192.8	186.2	178.0	169.9	161.8	153.7	148.5
62.5°	198.1	192.7	187.4	182.1	176.7	169.9	161.8	153.7	145.6	137.5	132.6
65°	173.5	168.1	162.8	157.4	152.0	145.5	137.9	130.3	122.7	115.1	110.3
67.5°	148.8	143.4	137.9	132.5	127.1	120.7	113.4	106.1	98.8	91.5	87.9
70°	132.6	127.3	122.1	116.8	111.6	105.5	98.7	91.8	85.0	78.1	74.7
72.5°	116.5	111.3	106.1	100.9	95.7	90.0	83.8	77.6	71.4	65.1	62.4
75°	91.8	87.1	82.4	77.8	73.0	68.1	62.7	57.3	51.9	46.6	45.6
77.5°	69.3	65.0	60.8	56.6	52.4	48.5	45.1	41.6	38.2	34.7	34.2
80°	54.9	50.9	46.9	42.9	38.9	35.9	33.8	31.8	29.7	27.7	27.3
82.5°	41.2	37.7	34.3	30.8	27.3	25.2	24.2	23.3	22.3	21.3	21.0
85°	23.3	21.1	18.9	16.9	14.7	13.5	13.2	12.9	12.6	12.3	12.1
87.5°	8.9	8.5	8.0	7.8	7.4	7.4	8.1	8.8	9.4	10.1	9.7
90°	2.2	4.3	6.6	9.9	12.1	14.2	17.5	20.8	24.1	27.3	26.3
92.5°	13.6	20.2	29.3	37.9	47.1	63.3	92.0	139.1	185.3	168.4	127.1
95°	37.2	40.5	52.6	71.2	99.6	142.3	235.4	398.6	578.2	649.4	526.7
97.5°	63.5	64.6	74.0	90.2	118.3	164.5	253.4	437.3	736.8	1006.4	1076.7
100°	81.1	82.1	89.8	105.1	131.4	174.1	250.8	412.8	700.9	1037.1	1252.8
102.5°	99.4	101.4	108.2	122.6	146.3	185.5	254.3	391.8	648.3	980.1	1261.5
105°	127.1	130.4	136.9	150.1	170.8	204.8	263.9	376.7	583.7	880.4	1194.8
107.5°	156.4	159.7	166.0	178.9	198.4	230.0	281.9	375.6	542.5	792.4	1077.8
110°	177.4	180.7	186.2	198.2	216.8	247.5	296.8	380.0	526.7	742.4	1004.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	196.7	200.0	205.5	217.4	236.1	265.9	311.7	388.8	518.0	709.2	940.3
115°	224.5	228.8	235.4	246.4	265.0	294.5	336.2	403.0	514.7	673.4	862.9
117.5°	252.3	257.3	262.8	272.9	293.7	321.1	362.2	421.8	516.7	652.4	816.2
120°	271.5	274.8	280.3	291.3	312.1	339.5	378.9	435.8	520.2	642.8	791.7
122.5°	288.2	291.5	297.0	308.8	328.8	357.9	396.4	449.0	526.3	636.7	771.6
125°	312.1	314.3	320.8	332.9	353.7	383.2	421.6	469.8	535.5	628.6	745.7
127.5°	330.3	333.6	341.7	353.9	376.9	406.5	443.5	486.9	546.0	624.6	723.0
130°	341.7	345.0	354.8	368.0	391.0	420.5	456.7	498.2	553.0	622.0	710.7
132.5°	350.4	354.6	365.3	381.1	404.1	432.8	468.1	508.8	558.3	621.1	699.4
135°	365.8	370.1	382.2	398.6	421.6	451.2	485.1	522.4	566.2	619.8	684.5
137.5°	380.2	384.8	396.6	414.2	437.0	464.3	496.9	532.4	571.5	617.4	671.5
140°	389.8	395.3	406.2	423.8	445.7	473.1	504.8	537.7	575.0	616.5	663.6
142.5°	400.4	405.0	416.8	432.5	454.5	480.1	511.0	542.9	577.6	614.8	656.6
145°	417.3	420.5	430.4	446.8	465.4	490.6	519.1	548.7	579.3	612.2	647.2
147.5°	434.3	436.3	445.9	460.1	478.2	499.5	525.7	552.1	579.3	608.0	638.0
150°	445.7	446.8	455.5	469.8	485.1	504.8	530.0	553.0	579.3	604.5	631.9
152.5°	457.1	457.3	466.1	478.5	492.1	511.0	532.6	554.8	576.6	600.1	624.9
155°	474.2	474.2	480.8	491.7	503.7	519.1	537.7	555.3	573.8	592.5	614.3
157.5°	487.8	488.6	493.9	503.5	513.8	525.7	540.5	556.3	570.1	585.7	602.5
160°	498.2	498.2	502.7	511.4	519.1	530.0	543.2	556.3	568.4	580.4	594.7
162.5°	506.1	506.1	509.6	516.7	523.5	532.6	544.0	555.4	564.9	575.1	586.7
165°	518.0	516.9	519.1	524.5	529.0	536.6	545.4	553.0	559.6	567.2	576.0
167.5°	527.0	525.7	526.7	530.9	534.0	538.8	545.2	551.3	554.3	559.4	565.7
170°	532.3	530.0	531.1	534.4	536.6	538.8	544.2	548.7	550.8	554.1	559.6
172.5°	535.7	534.4	534.6	537.1	538.4	539.7	544.2	547.8	548.2	549.7	553.5
175°	539.9	538.8	537.7	539.9	539.9	541.0	543.2	545.4	544.2	544.2	546.5
177.5°	541.9	541.0	540.1	541.0	541.0	541.0	541.9	543.6	541.9	541.0	541.9
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	539.3	540.2	541.1	541.4	541.3	541.1	540.9	540.8
5°	535.8	536.7	537.5	537.9	537.7	537.5	537.3	537.2
7.5°	528.3	528.8	529.2	529.3	529.0	528.7	528.3	528.0
10°	521.5	521.6	521.7	521.5	521.0	520.6	520.0	519.5
12.5°	513.1	513.0	513.0	512.6	512.1	511.5	511.0	510.4
15°	498.3	497.9	497.4	496.8	496.2	495.4	494.7	494.1
17.5°	480.8	479.8	478.7	477.7	476.6	475.6	474.7	473.6
20°	468.7	467.4	466.2	465.0	463.7	462.6	461.5	460.2
22.5°	455.8	454.2	452.6	451.3	450.2	449.1	448.0	447.0
25°	434.6	432.6	430.6	429.0	427.9	426.9	425.7	424.7
27.5°	411.6	408.8	406.0	403.7	402.0	400.4	398.8	397.1
30°	395.2	391.9	388.6	386.2	384.6	383.0	381.4	379.8
32.5°	379.1	375.5	371.8	369.2	367.6	366.0	364.3	362.7
35°	355.2	351.0	346.9	343.8	342.1	340.4	338.6	336.9
37.5°	329.6	324.8	320.1	316.6	314.4	312.3	310.1	307.9
40°	311.8	306.7	301.6	297.9	295.7	293.5	291.2	289.0
42.5°	294.6	289.2	283.6	279.8	277.8	275.8	273.8	271.7
45°	269.5	263.9	258.4	254.4	252.1	249.8	247.4	245.1
47.5°	243.5	237.4	231.4	227.3	225.3	223.2	221.0	219.0
50°	225.9	219.9	213.9	209.7	207.5	205.2	202.9	200.7
52.5°	209.0	202.6	196.4	192.3	190.2	188.2	186.2	184.2
55°	183.7	178.0	172.4	168.5	166.6	164.7	162.7	160.7
57.5°	158.8	153.4	148.2	144.6	143.0	141.3	139.7	138.0
60°	143.2	137.9	132.6	129.1	127.5	125.8	124.2	122.5
62.5°	127.6	122.7	117.7	114.3	112.6	110.9	109.1	107.4
65°	105.5	100.8	96.0	93.0	91.9	90.9	89.8	88.7
67.5°	84.4	80.8	77.2	74.8	73.7	72.6	71.4	70.3
70°	71.4	68.0	64.5	62.3	61.2	60.1	59.0	58.0
72.5°	59.6	56.8	54.0	52.4	51.9	51.5	51.1	50.6
75°	44.6	43.6	42.6	42.0	41.8	41.7	41.5	41.3
77.5°	33.6	33.1	32.6	32.2	32.0	31.9	31.7	31.5
80°	27.1	26.8	26.5	26.3	26.0	25.8	25.6	25.4
82.5°	20.7	20.5	20.2	20.0	20.0	19.9	19.9	19.9
85°	11.9	11.7	11.5	11.4	11.4	11.4	11.4	11.4
87.5°	9.9	10.0	10.2	10.6	10.3	10.4	10.6	10.2
90°	27.3	28.5	29.6	31.8	30.6	31.8	32.9	31.8
92.5°	92.2	73.1	64.6	58.9	56.9	53.6	54.8	52.8
95°	394.3	267.2	209.2	169.8	148.9	139.1	131.4	127.1
97.5°	982.7	787.1	645.9	514.9	434.1	384.8	355.2	345.8
100°	1291.1	1202.4	1074.3	918.8	808.1	728.2	685.5	686.6
102.5°	1393.6	1390.7	1316.1	1217.5	1131.4	1068.2	1032.5	1007.3
105°	1423.6	1533.1	1554.0	1525.5	1475.1	1433.5	1398.5	1393.0
107.5°	1337.3	1515.1	1611.1	1650.1	1651.0	1636.9	1625.1	1615.0
110°	1255.0	1456.5	1594.5	1671.1	1701.8	1710.5	1708.4	1706.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1173.5	1379.4	1534.0	1632.6	1688.7	1715.8	1724.1	1724.6
115°	1065.5	1256.0	1417.0	1536.4	1618.5	1666.7	1688.7	1694.1
117.5°	987.3	1151.8	1296.4	1417.5	1503.2	1558.3	1589.9	1597.3
120°	946.1	1094.0	1225.4	1336.1	1422.5	1483.8	1510.1	1516.7
122.5°	913.7	1047.5	1169.3	1272.1	1349.0	1404.1	1433.0	1441.3
125°	870.6	990.0	1095.0	1182.7	1252.8	1301.0	1328.3	1336.1
127.5°	832.9	939.3	1034.2	1113.9	1176.4	1217.5	1242.3	1249.2
130°	809.3	907.9	996.6	1071.0	1129.1	1168.5	1191.5	1200.2
132.5°	787.4	878.1	960.6	1031.6	1086.1	1125.5	1145.9	1152.1
135°	757.8	835.6	906.7	969.1	1022.8	1055.6	1075.3	1083.1
137.5°	730.8	794.6	855.9	910.0	955.2	988.4	1005.0	1010.1
140°	715.1	770.9	823.5	870.6	912.2	942.9	960.4	959.3
142.5°	700.2	748.2	793.7	834.7	870.2	897.3	913.0	912.0
145°	682.2	718.4	753.5	785.1	812.6	835.6	844.3	846.5
147.5°	667.6	696.3	724.5	747.1	767.9	783.4	791.7	792.6
150°	657.0	682.2	705.2	726.0	742.4	754.5	761.1	761.1
152.5°	647.4	669.1	689.5	706.8	719.7	730.8	734.8	734.8
155°	632.9	650.4	666.9	680.0	689.9	698.7	700.9	701.9
157.5°	617.6	632.4	645.0	655.3	663.8	670.4	672.1	671.9
160°	608.9	620.9	631.9	639.5	647.2	653.7	653.7	652.7
162.5°	598.3	608.7	618.7	625.5	630.6	636.2	636.2	635.2
165°	584.8	591.4	599.0	604.5	608.9	613.2	612.2	612.2
167.5°	573.0	578.0	582.4	586.4	588.2	591.4	590.2	590.2
170°	565.1	568.4	572.7	575.0	576.0	578.2	577.1	577.1
172.5°	558.1	560.4	564.0	565.2	565.5	567.7	565.7	564.9
175°	548.7	549.7	552.0	552.0	552.0	553.0	552.0	550.8
177.5°	542.7	543.6	544.5	544.5	543.6	544.5	542.7	542.7
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0

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