

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: P331942-830

Luminaire Tested: **S123DIP-S560D1025U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331942-830
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: S123DIP-S560D1025U830-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 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: 5727.6 lumens
Efficiency: N/A
Efficacy: 128.7 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: Semi-Indirect

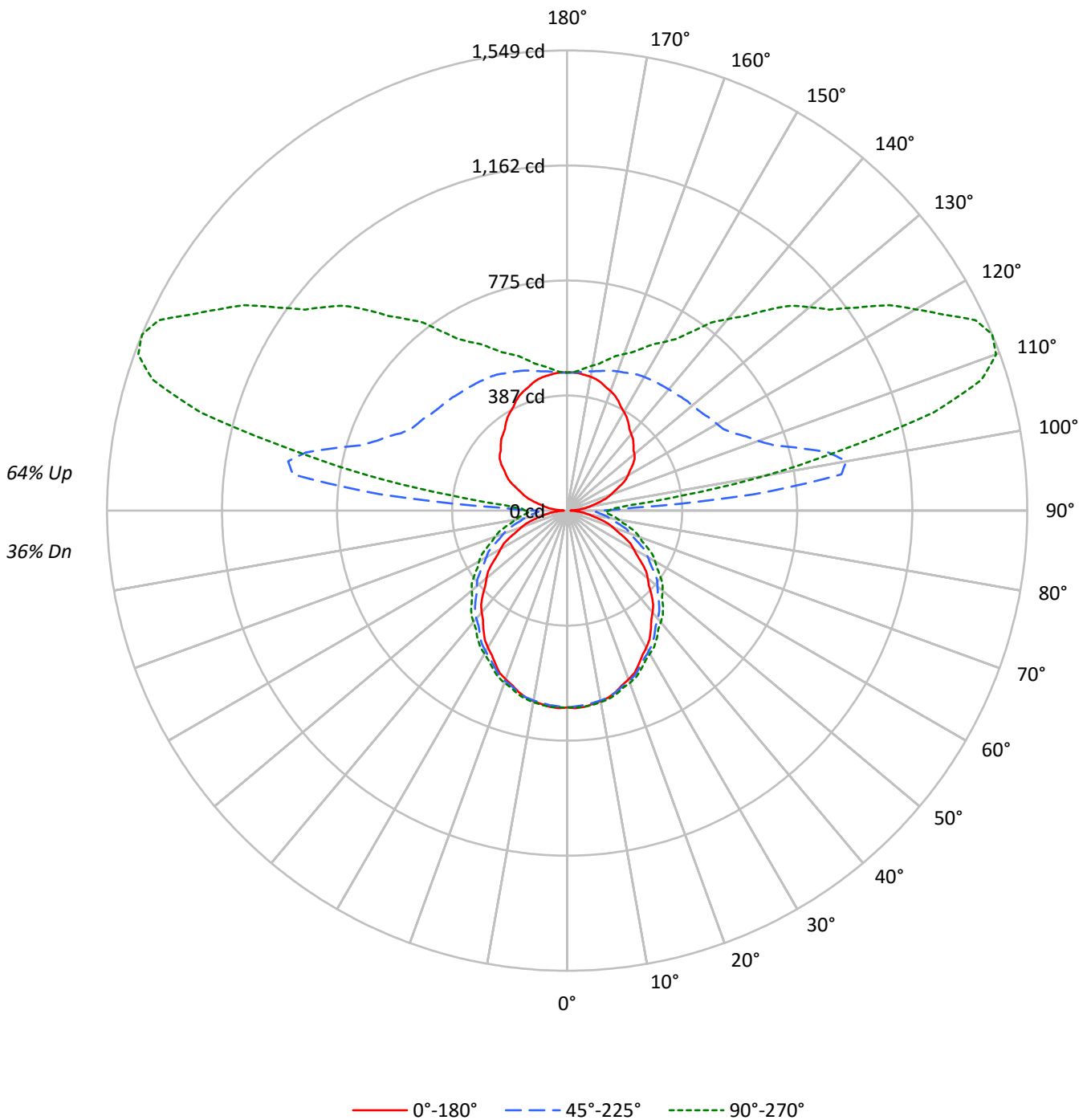
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	75	75	75	58	58	58	43	43	43	36
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	28
2	85	77	71	66	77	70	65	60	56	53	49	44	41	39	32	30	29	23
3	77	68	60	54	70	61	55	50	49	45	41	38	35	32	28	26	24	19
4	71	60	52	46	63	54	47	42	44	39	35	34	30	27	25	22	21	16
5	65	53	45	39	58	48	41	36	39	34	30	30	27	24	22	20	18	14
6	59	47	39	34	53	43	36	31	35	30	26	27	23	21	20	18	15	12
7	55	43	35	29	49	39	32	27	32	26	22	25	21	18	18	16	14	11
8	51	39	31	26	46	35	28	24	29	23	20	23	19	16	17	14	12	10
9	47	35	28	23	43	32	25	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.1
10°-20°	179.1	3.1
20°-30°	267.9	4.7
30°-40°	319.9	5.6
40°-50°	334.7	5.8
50°-60°	314.1	5.5
60°-70°	262.3	4.6
70°-80°	187.7	3.3
80°-90°	115.5	2.0
90°-100°	328.9	5.7
100°-110°	784.0	13.7
110°-120°	754.9	13.2
120°-130°	594.4	10.4
130°-140°	461.9	8.1
140°-150°	340.1	5.9
150°-160°	235.7	4.1
160°-170°	138.5	2.4
170°-180°	45.1	0.8
0°-30°	509.8	8.9
0°-40°	829.7	14.5
0°-60°	1478.6	25.8
0°-90°	2044.2	35.7
90°-120°	1867.8	32.6
90°-150°	3264.2	57.0
90°-180°	3683.0	64.3
0°-180°	5727.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	11	56	105	132	141	9
95°	40	140	629	256	210	41
105°	115	185	811	1396	1278	122
115°	196	254	617	1324	1517	195
125°	270	320	563	1016	1191	240
135°	316	376	541	827	956	244
145°	359	411	526	667	736	225
155°	407	439	509	579	603	187
165°	445	458	487	517	526	125
175°	464	464	468	474	473	44
180°	465	465	465	465	465	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.6	28.0	36.3	44.9	53.3	61.7	70.4	79.2	87.9	96.7	102.0
90°	11.3	21.0	30.7	41.5	51.2	61.1	72.1	83.1	94.1	105.1	109.6
92.5°	20.5	33.2	48.2	62.7	77.7	99.2	131.9	180.3	228.1	221.7	191.4
95°	40.0	49.0	65.6	87.8	118.6	162.3	250.2	398.2	560.3	629.4	529.0
97.5°	61.6	68.2	82.0	101.5	131.3	177.6	261.5	427.1	691.7	930.9	996.1
100°	76.2	82.2	93.9	112.3	140.0	182.9	256.1	402.7	657.5	953.8	1143.8
102.5°	91.3	97.6	108.1	125.2	150.1	189.7	256.1	381.4	609.1	901.4	1147.7
105°	114.9	121.6	131.1	146.2	168.0	202.5	260.2	364.0	548.7	810.6	1085.1
107.5°	139.2	145.3	154.1	168.4	188.5	220.5	271.6	358.7	508.6	729.9	979.4
110°	156.7	162.5	170.0	183.3	202.2	233.2	281.9	359.9	492.3	684.1	913.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.3	178.5	185.6	198.3	216.7	246.6	292.0	364.4	481.6	652.1	854.6
115°	196.5	202.2	209.7	221.0	239.0	268.2	309.8	373.0	474.7	616.9	783.4
117.5°	220.3	225.7	231.7	241.5	260.5	287.4	328.2	384.7	471.6	593.8	738.3
120°	236.2	239.9	245.3	255.5	274.2	300.8	340.0	394.2	471.9	582.6	714.3
122.5°	250.5	253.7	258.9	269.5	287.0	314.7	352.9	403.1	474.6	574.5	693.9
125°	270.3	272.2	277.9	288.1	306.0	333.8	371.4	417.5	478.5	563.2	667.1
127.5°	285.9	288.6	295.4	305.8	325.4	352.6	388.2	429.3	484.0	555.4	643.1
130°	295.7	298.4	306.7	317.8	337.4	364.3	398.6	437.5	487.8	550.3	629.5
132.5°	302.7	306.2	315.4	328.9	348.6	374.6	407.4	445.0	490.0	546.7	616.7
135°	315.7	319.2	329.5	343.5	363.1	389.3	420.2	453.9	493.3	541.2	599.6
137.5°	327.9	331.8	341.8	356.8	376.2	400.1	429.1	460.6	495.1	535.6	584.7
140°	335.6	340.4	349.8	364.9	383.6	407.4	435.2	463.8	496.3	532.5	575.4
142.5°	344.7	348.6	358.5	371.9	390.7	412.6	439.3	466.8	496.7	528.8	566.8
145°	359.2	361.8	370.1	384.1	399.9	421.5	445.9	471.4	497.7	525.9	557.3
147.5°	373.2	374.8	383.1	395.3	410.8	429.2	451.6	474.4	497.7	522.4	548.5
150°	383.0	383.9	391.3	403.6	416.8	433.8	455.3	475.1	497.7	519.3	542.8
152.5°	392.7	392.9	400.4	411.1	422.8	439.0	457.6	476.6	495.4	515.6	536.9
155°	407.4	407.4	413.0	422.4	432.8	445.9	461.9	477.0	492.9	509.0	527.8
157.5°	419.1	419.8	424.3	432.6	441.4	451.6	464.4	478.0	489.8	503.1	517.6
160°	428.1	428.1	431.9	439.3	445.9	455.3	466.7	478.0	488.3	498.6	510.9
162.5°	434.9	434.9	437.9	443.8	449.7	457.6	467.4	477.2	485.3	494.1	504.1
165°	445.0	444.0	445.9	450.6	454.4	461.0	468.5	475.1	480.8	487.4	494.8
167.5°	452.7	451.6	452.5	456.1	458.7	462.9	468.3	473.6	476.3	480.6	486.1
170°	457.2	455.3	456.3	459.1	461.0	462.9	467.6	471.4	473.3	476.1	480.8
172.5°	460.2	459.1	459.3	461.4	462.5	463.6	467.6	470.6	471.0	472.3	475.5
175°	463.8	462.9	461.9	463.8	463.8	464.8	466.7	468.5	467.6	467.6	469.5
177.5°	465.5	464.8	464.0	464.8	464.8	464.8	465.5	467.0	465.5	464.8	465.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	107.6	113.2	118.9	122.8	124.2	126.0	127.8	129.2
90°	116.0	122.4	128.8	134.2	134.9	137.4	140.0	140.6
92.5°	166.8	155.8	153.8	152.3	152.0	150.7	153.2	152.9
95°	420.1	315.9	271.1	240.5	224.2	217.4	212.4	210.2
97.5°	920.1	756.9	640.3	530.9	463.2	422.4	398.6	392.1
100°	1181.4	1109.8	1004.4	873.9	780.5	713.4	678.3	680.9
102.5°	1265.7	1267.8	1208.2	1126.5	1054.1	1001.4	972.3	952.3
105°	1286.2	1384.8	1407.1	1385.6	1343.8	1309.5	1280.8	1277.6
107.5°	1206.6	1363.8	1450.5	1486.8	1488.9	1478.3	1469.6	1462.4
110°	1132.7	1310.0	1432.8	1501.3	1529.0	1537.8	1537.2	1536.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1059.0	1239.9	1376.9	1464.2	1513.8	1538.5	1547.1	1548.9
115°	961.4	1129.0	1271.1	1376.2	1448.0	1490.7	1510.8	1516.8
117.5°	889.1	1034.3	1162.2	1268.9	1343.7	1392.3	1420.7	1428.3
120°	850.6	981.3	1097.9	1195.3	1270.7	1324.6	1348.3	1355.0
122.5°	819.5	938.1	1046.3	1136.9	1204.1	1252.6	1278.6	1286.9
125°	777.8	883.7	977.4	1054.9	1116.3	1158.8	1183.5	1191.1
127.5°	740.7	835.4	920.0	990.6	1045.4	1081.9	1104.2	1111.3
130°	717.3	804.9	884.2	950.2	1001.1	1035.9	1056.6	1065.1
132.5°	695.3	776.1	850.0	912.9	960.9	995.9	1014.5	1020.8
135°	665.5	735.2	799.2	854.7	901.6	930.7	948.4	955.7
137.5°	638.2	695.5	750.7	798.8	838.4	867.8	882.9	888.1
140°	622.1	672.4	720.0	762.0	798.6	825.8	841.6	841.5
142.5°	606.4	649.8	691.1	727.7	759.0	783.2	797.5	797.4
145°	588.7	621.0	652.4	680.7	704.8	725.2	733.4	735.9
147.5°	574.3	599.4	624.0	643.9	662.3	676.3	684.0	685.3
150°	564.5	586.2	605.9	624.0	638.4	649.0	655.0	655.3
152.5°	556.2	574.9	592.4	607.3	618.4	628.1	631.5	631.6
155°	543.8	558.8	573.0	584.3	592.8	600.2	602.1	603.0
157.5°	530.7	543.2	554.1	563.0	570.3	576.0	577.5	577.3
160°	523.1	533.5	542.8	549.4	556.0	561.7	561.7	560.7
162.5°	514.1	522.9	531.6	537.4	541.8	546.6	546.6	545.6
165°	502.4	508.0	514.6	519.3	523.1	526.9	525.9	525.9
167.5°	492.2	496.5	500.3	503.7	505.4	508.0	507.1	507.1
170°	485.5	488.3	492.0	493.9	494.8	496.7	495.8	495.8
172.5°	479.5	481.5	484.6	485.7	485.9	487.8	486.1	485.3
175°	471.4	472.3	474.2	474.2	474.2	475.1	474.2	473.3
177.5°	466.3	467.0	467.8	467.8	467.0	467.8	466.3	466.3
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8

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