

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: P331951-930

Luminaire Tested: **S123DIP-S560D1195U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331951-930
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-S560D1195U930-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5450.8 lumens
Efficiency: N/A
Efficacy: 110.3 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

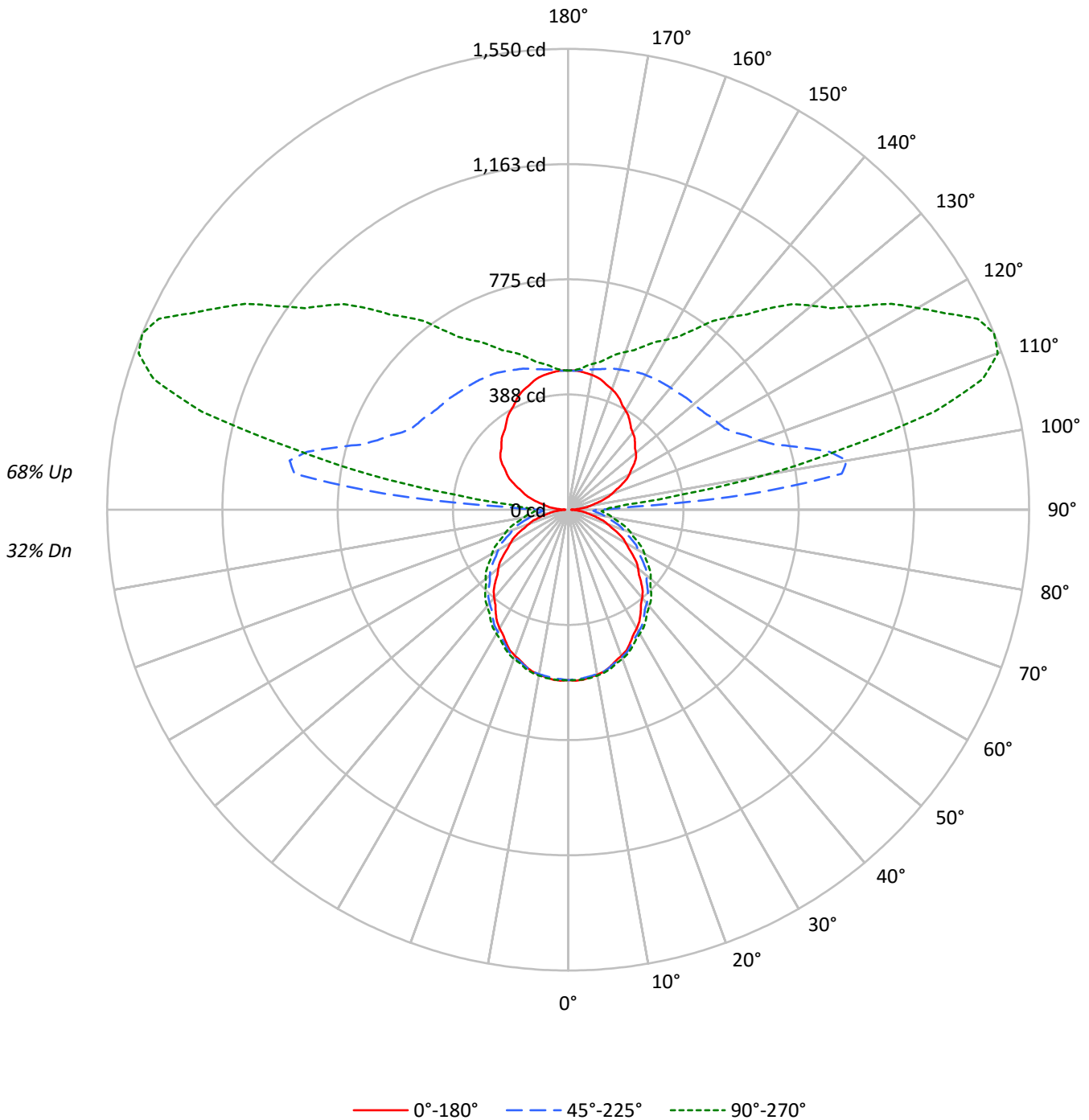
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	32
1	93	89	85	81	84	80	76	73	63	61	59	48	47	45	34	33	32	26
2	85	77	71	65	76	69	64	60	55	51	48	42	39	37	30	28	27	21
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	22	18
4	70	59	52	45	63	54	47	42	43	38	34	33	29	26	23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29	29	26	23	21	18	17	13
6	59	47	39	33	53	43	36	31	34	29	25	26	23	20	19	16	14	11
7	54	42	34	29	49	38	31	27	31	26	22	24	20	17	17	15	13	10
8	50	38	31	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	32	25	21	26	21	17	20	16	14	14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6171	6171	6171
5°	6191	6015	6019
10°	6135	5878	5848
15°	6056	5720	5660
20°	5943	5540	5454
25°	5804	5333	5238
30°	5660	5147	5019
35°	5500	4950	4844
40°	5347	4771	4656
45°	5177	4599	4506
50°	5010	4430	4341
55°	4826	4256	4193
60°	4646	4080	4040
65°	4462	3891	3859
70°	4185	3680	3673
75°	3832	3437	3484
80°	3426	3199	3268
85°	3052	3034	3143



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.4	1.0
10°-20°	154.9	2.8
20°-30°	231.7	4.3
30°-40°	276.7	5.1
40°-50°	289.5	5.3
50°-60°	271.7	5.0
60°-70°	226.9	4.2
70°-80°	162.4	3.0
80°-90°	100.4	1.8
90°-100°	321.2	5.9
100°-110°	782.0	14.3
110°-120°	755.2	13.9
120°-130°	595.6	10.9
130°-140°	463.8	8.5
140°-150°	342.1	6.3
150°-160°	237.3	4.4
160°-170°	139.4	2.6
170°-180°	45.4	0.8
0°-30°	441.0	8.1
0°-40°	717.7	13.2
0°-60°	1279.0	23.5
0°-90°	1768.7	32.4
90°-120°	1858.4	34.1
90°-150°	3260.0	59.8
90°-180°	3682.0	67.5
0°-180°	5450.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	573	573	573	573	573	
5°	574	573	569	574	573	54
15°	546	548	548	554	553	154
25°	493	499	502	509	510	227
35°	425	435	443	452	455	266
45°	347	362	378	389	395	268
55°	265	286	308	324	330	237
65°	183	208	235	253	260	181
75°	99	129	160	180	188	106
85°	31	62	95	115	122	32
90°	10	50	94	117	126	8
95°	39	136	624	244	197	40
105°	115	183	808	1396	1275	122
115°	197	253	616	1325	1518	195
125°	272	322	564	1018	1193	241
135°	318	379	544	830	959	245
145°	362	414	530	670	740	226
155°	410	442	512	583	607	189
165°	448	461	491	520	530	126
175°	467	468	471	477	476	44
180°	468	468	468	468	468	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3
2.5°	575.8	575.5	575.2	574.8	574.5	573.9	573.0	572.1	571.2	570.3	571.2
5°	574.0	573.6	573.4	573.2	572.8	572.3	571.4	570.6	569.8	568.9	570.1
7.5°	568.3	568.3	568.4	568.5	568.6	568.2	567.4	566.6	565.7	564.9	566.3
10°	563.4	563.6	563.9	564.2	564.4	564.3	563.5	562.9	562.1	561.5	562.9
12.5°	557.3	557.7	558.2	558.5	558.9	558.9	558.4	557.9	557.4	556.9	558.2
15°	546.5	546.9	547.3	547.7	548.1	548.3	548.1	548.0	547.9	547.7	549.1
17.5°	532.7	533.5	534.4	535.2	536.1	536.5	536.4	536.3	536.3	536.2	537.4
20°	522.8	523.6	524.4	525.2	526.0	526.6	526.9	527.2	527.4	527.7	529.0
22.5°	512.3	513.1	513.9	514.8	515.6	516.2	516.6	517.0	517.4	517.7	519.3
25°	493.4	494.8	496.2	497.6	499.0	499.9	500.3	500.7	501.1	501.5	503.3
27.5°	474.4	476.0	477.6	479.2	480.7	481.9	482.8	483.7	484.6	485.5	487.1
30°	460.9	462.7	464.5	466.4	468.1	469.6	470.7	471.8	472.9	474.0	475.7
32.5°	445.9	447.9	450.0	452.0	454.0	455.8	457.2	458.6	460.1	461.5	463.3
35°	424.7	426.9	429.1	431.4	433.6	435.6	437.4	439.2	441.0	442.8	444.9
37.5°	402.2	404.7	407.2	409.7	412.2	414.6	416.8	419.0	421.2	423.5	425.8
40°	387.2	389.7	392.2	394.7	397.2	399.8	402.6	405.4	408.1	410.9	413.3
42.5°	370.7	373.8	376.8	379.8	382.9	385.9	388.8	391.7	394.6	397.5	400.1
45°	347.2	350.6	353.9	357.3	360.5	363.9	367.5	370.9	374.4	377.8	380.5
47.5°	322.6	326.4	330.2	333.9	337.7	341.6	345.6	349.5	353.5	357.5	360.4
50°	306.6	310.5	314.4	318.3	322.2	326.3	330.6	334.9	339.2	343.5	346.7
52.5°	289.7	293.8	297.9	302.0	306.1	310.5	315.3	320.0	324.7	329.5	332.8
55°	264.8	269.4	273.9	278.5	283.2	287.9	292.9	297.9	302.9	307.9	311.6
57.5°	240.6	245.3	250.1	254.9	259.7	264.8	270.3	275.7	281.2	286.7	290.4
60°	223.6	228.6	233.6	238.6	243.5	248.9	254.6	260.3	266.0	271.7	275.6
62.5°	207.6	212.7	217.8	222.9	228.0	233.6	239.6	245.6	251.7	257.7	261.5
65°	183.0	188.4	193.8	199.3	204.6	210.4	216.5	222.6	228.7	234.8	239.0
67.5°	158.0	163.8	169.5	175.2	181.0	186.9	193.2	199.4	205.6	211.8	216.4
70°	140.6	146.5	152.5	158.4	164.4	170.7	177.3	184.0	190.7	197.4	201.8
72.5°	124.5	130.5	136.5	142.4	148.4	154.8	161.7	168.6	175.5	182.4	186.9
75°	99.3	105.8	112.3	118.9	125.4	132.2	139.1	146.0	153.0	159.9	164.4
77.5°	77.3	83.9	90.5	97.0	103.6	110.4	117.4	124.4	131.4	138.4	143.2
80°	61.8	68.6	75.4	82.3	89.0	96.0	103.2	110.5	117.7	124.9	129.6
82.5°	48.3	55.3	62.1	69.1	76.0	83.1	90.4	97.8	105.1	112.4	117.2
85°	30.6	37.5	44.5	51.4	58.4	65.5	72.9	80.2	87.6	94.9	99.6
87.5°	17.0	24.3	31.6	39.1	46.3	53.7	61.4	69.0	76.6	84.3	88.9
90°	10.0	18.7	27.4	37.0	45.7	54.5	64.5	74.4	84.3	94.2	98.0
92.5°	19.4	31.1	45.2	58.8	72.9	93.4	125.2	172.9	219.9	212.2	181.1
95°	39.1	47.4	63.2	84.7	114.7	157.8	245.1	393.1	555.2	623.5	521.8
97.5°	61.1	66.9	79.9	98.8	128.0	173.7	257.1	422.7	688.1	927.9	992.8
100°	75.7	81.1	92.2	109.9	137.1	179.4	252.1	398.7	654.2	951.4	1142.0
102.5°	91.2	96.9	106.7	123.2	147.7	186.7	252.5	377.7	605.8	899.1	1146.5
105°	114.9	121.1	130.0	144.8	166.1	200.1	257.2	360.8	545.8	808.5	1084.2
107.5°	139.5	145.2	153.5	167.5	187.2	218.7	269.3	356.0	506.1	727.9	978.4
110°	157.2	162.6	169.7	182.7	201.3	231.9	280.1	357.6	490.1	682.2	912.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.9	178.8	185.6	198.0	216.2	245.6	290.6	362.6	479.7	650.4	853.8
115°	197.3	202.8	210.1	221.3	239.0	267.9	308.9	371.7	473.3	615.6	782.9
117.5°	221.3	226.7	232.4	242.1	261.1	287.7	328.0	384.3	470.9	593.1	738.1
120°	237.4	240.9	246.4	256.6	275.2	301.6	340.2	394.1	471.6	582.3	714.3
122.5°	251.8	255.0	260.1	270.7	288.3	315.8	353.6	403.4	474.6	574.5	694.2
125°	271.8	273.7	279.4	289.8	307.9	335.4	372.6	418.3	479.2	563.7	668.0
127.5°	287.6	290.2	297.2	307.6	327.3	354.6	389.9	430.7	485.2	556.5	644.3
130°	297.4	300.1	308.5	319.8	339.5	366.4	400.4	439.2	489.3	551.8	631.1
132.5°	304.5	308.1	317.3	330.9	350.8	376.7	409.4	446.9	492.0	548.5	618.6
135°	317.6	321.3	331.6	345.6	365.4	391.7	422.6	456.2	495.7	543.6	602.0
137.5°	330.0	333.9	344.0	359.1	378.6	402.7	431.8	463.3	497.9	538.6	587.5
140°	337.9	342.6	352.0	367.2	386.1	410.0	437.9	466.8	499.4	535.8	578.6
142.5°	346.9	350.8	360.9	374.5	393.3	415.5	442.2	470.0	500.0	532.3	570.3
145°	361.5	364.2	372.6	386.7	402.7	424.4	449.0	474.6	501.1	529.5	560.9
147.5°	375.7	377.4	385.7	398.0	413.6	432.1	454.7	477.6	501.1	525.9	552.2
150°	385.6	386.5	394.0	406.3	419.6	436.7	458.4	478.3	501.1	522.9	546.6
152.5°	395.4	395.6	403.2	413.9	425.7	442.0	460.7	479.9	498.8	519.1	540.5
155°	410.2	410.2	415.9	425.3	435.7	449.0	465.1	480.3	496.4	512.5	531.4
157.5°	421.9	422.7	427.2	435.5	444.4	454.7	467.6	481.2	493.2	506.6	521.1
160°	431.0	431.0	434.8	442.4	449.0	458.4	469.9	481.2	491.6	502.1	514.4
162.5°	437.8	437.8	440.8	446.9	452.8	460.7	470.6	480.5	488.6	497.5	507.5
165°	448.1	447.1	449.0	453.7	457.5	464.1	471.7	478.3	484.0	490.6	498.2
167.5°	455.8	454.7	455.6	459.3	461.9	466.0	471.6	476.9	479.5	483.9	489.3
170°	460.4	458.4	459.4	462.3	464.1	466.0	470.8	474.6	476.5	479.3	484.0
172.5°	463.4	462.3	462.4	464.6	465.7	466.8	470.8	473.9	474.2	475.5	478.7
175°	467.0	466.0	465.1	467.0	467.0	468.0	469.9	471.7	470.8	470.8	472.7
177.5°	468.7	468.0	467.2	468.0	468.0	468.0	468.7	470.2	468.7	468.0	468.7
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	573.3	573.3	573.3	573.3	573.3	573.3	573.3	573.3
2.5°	572.1	573.0	573.9	574.3	574.1	574.1	574.0	573.8
5°	571.2	572.3	573.4	573.9	573.7	573.6	573.5	573.3
7.5°	567.7	569.1	570.5	571.1	571.0	570.8	570.6	570.5
10°	564.3	565.7	567.0	567.5	567.3	567.0	566.7	566.5
12.5°	559.5	560.8	562.1	562.6	562.3	562.0	561.7	561.5
15°	550.5	551.9	553.3	553.9	553.8	553.6	553.5	553.3
17.5°	538.7	540.0	541.2	541.8	541.5	541.4	541.2	541.0
20°	530.3	531.5	532.7	533.5	533.5	533.7	533.9	533.9
22.5°	520.9	522.5	524.1	524.8	524.7	524.6	524.6	524.5
25°	505.1	507.0	508.7	509.6	509.6	509.6	509.6	509.6
27.5°	488.6	490.2	491.7	492.6	492.7	492.8	492.9	493.0
30°	477.4	479.0	480.7	481.5	481.5	481.5	481.5	481.5
32.5°	465.0	466.8	468.6	469.7	470.0	470.3	470.7	471.0
35°	446.9	449.1	451.1	452.4	453.0	453.6	454.1	454.7
37.5°	428.1	430.5	432.8	434.3	434.7	435.1	435.6	436.0
40°	415.6	418.0	420.4	421.8	422.4	423.0	423.5	424.0
42.5°	402.6	405.2	407.8	409.4	410.3	411.0	411.8	412.5
45°	383.1	385.7	388.4	390.3	391.3	392.5	393.6	394.7
47.5°	363.5	366.4	369.3	371.3	372.1	373.0	373.9	374.7
50°	349.8	353.1	356.3	358.3	359.3	360.3	361.3	362.2
52.5°	336.1	339.4	342.8	345.0	346.2	347.3	348.5	349.8
55°	315.4	319.1	322.9	325.3	326.4	327.5	328.6	329.8
57.5°	294.2	298.0	301.7	304.3	305.6	306.9	308.2	309.5
60°	279.5	283.3	287.2	289.9	291.5	292.9	294.5	296.0
62.5°	265.5	269.4	273.2	275.9	277.3	278.7	280.1	281.5
65°	243.1	247.3	251.5	254.3	255.7	257.1	258.4	259.8
67.5°	220.9	225.5	230.1	232.9	234.1	235.2	236.4	237.6
70°	206.3	210.7	215.2	218.0	219.4	220.8	222.2	223.6
72.5°	191.4	196.0	200.6	203.6	205.0	206.4	207.7	209.1
75°	169.0	173.7	178.2	181.3	183.0	184.7	186.3	188.0
77.5°	148.1	152.9	157.7	160.8	162.1	163.3	164.6	165.9
80°	134.4	139.1	143.8	146.8	148.2	149.6	151.0	152.4
82.5°	121.9	126.5	131.3	134.4	135.7	137.1	138.5	139.9
85°	104.4	109.1	113.8	116.8	118.2	119.6	121.0	122.4
87.5°	93.8	98.7	103.5	107.0	108.2	109.7	111.4	112.5
90°	103.7	109.3	115.0	119.9	120.4	122.8	125.1	125.6
92.5°	155.6	143.7	140.9	138.9	138.5	136.9	139.2	138.7
95°	411.5	305.9	260.0	228.7	212.1	205.0	199.7	197.3
97.5°	915.7	750.6	632.6	522.0	453.6	412.3	388.1	381.3
100°	1179.2	1106.5	999.7	867.9	773.6	705.8	670.3	672.6
102.5°	1264.6	1266.1	1205.4	1122.8	1049.7	996.4	966.9	946.5
105°	1286.1	1384.6	1406.6	1384.5	1342.1	1307.4	1278.3	1274.9
107.5°	1206.7	1364.2	1450.9	1487.1	1489.1	1478.2	1469.2	1461.8
110°	1132.8	1310.7	1433.6	1502.3	1529.9	1538.6	1537.8	1537.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1059.1	1240.6	1377.9	1465.5	1515.2	1539.9	1548.3	1550.0
115°	961.4	1129.6	1272.2	1377.6	1449.8	1492.6	1512.6	1518.5
117.5°	889.4	1034.9	1163.3	1270.2	1345.4	1394.2	1422.6	1430.1
120°	851.0	982.1	1098.9	1196.7	1272.5	1326.6	1350.2	1356.9
122.5°	820.3	939.1	1047.5	1138.4	1205.9	1254.6	1280.6	1288.7
125°	778.9	885.0	978.9	1056.6	1118.2	1160.9	1185.5	1193.1
127.5°	742.2	837.1	921.8	992.6	1047.6	1084.1	1106.4	1113.5
130°	719.0	806.9	886.3	952.4	1003.5	1038.4	1059.2	1067.6
132.5°	697.4	778.4	852.3	915.4	963.5	998.6	1017.1	1023.4
135°	668.0	737.8	801.8	857.4	904.5	933.6	951.4	958.7
137.5°	641.1	698.4	753.7	801.8	841.6	871.1	886.1	891.2
140°	625.3	675.6	723.2	765.2	802.0	829.2	845.1	844.8
142.5°	609.9	653.2	694.5	731.2	762.6	786.8	801.1	800.9
145°	592.4	624.8	656.2	684.4	708.7	729.1	737.3	739.7
147.5°	578.1	603.2	628.0	648.0	666.4	680.4	688.1	689.3
150°	568.3	590.1	610.0	628.2	642.6	653.4	659.3	659.6
152.5°	560.0	578.8	596.4	611.4	622.6	632.3	635.8	635.9
155°	547.5	562.6	576.9	588.2	596.8	604.4	606.3	607.2
157.5°	534.3	547.0	557.9	566.8	574.2	579.9	581.4	581.2
160°	526.7	537.1	546.6	553.2	559.9	565.5	565.5	564.6
162.5°	517.6	526.5	535.2	541.0	545.4	550.3	550.3	549.4
165°	505.8	511.5	518.1	522.9	526.7	530.4	529.5	529.5
167.5°	495.6	499.9	503.8	507.2	508.8	511.5	510.5	510.5
170°	488.8	491.6	495.4	497.3	498.2	500.2	499.2	499.2
172.5°	482.7	484.8	487.9	488.9	489.2	491.1	489.3	488.6
175°	474.6	475.5	477.4	477.4	477.4	478.3	477.4	476.5
177.5°	469.4	470.2	471.0	471.0	470.2	471.0	469.4	469.4
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0

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