

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: P331941-940

Luminaire Tested: **S123DIP-S560D1025U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331941-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D1025U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5250.0 lumens
Efficiency: N/A
Efficacy: 118.0 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

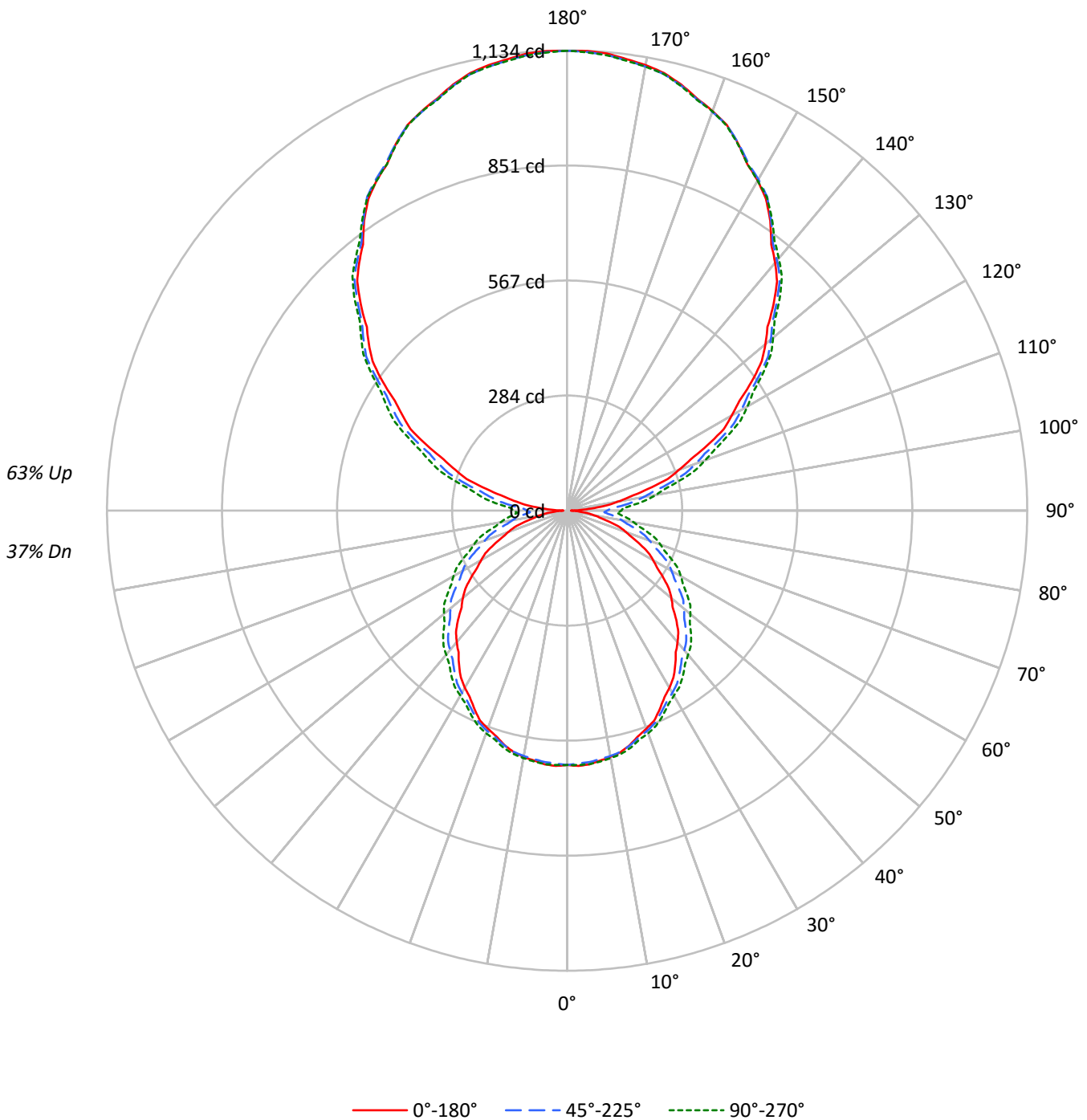
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	38	37	36	29
2	85	78	71	66	77	70	65	60	57	53	50	44	42	39	33	31	29	24
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20
4	71	60	52	46	64	54	47	42	44	39	35	34	31	28	25	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	19	24	19	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	1.1
10°-20°	169.5	3.2
20°-30°	253.4	4.8
30°-40°	302.7	5.8
40°-50°	316.7	6.0
50°-60°	297.2	5.7
60°-70°	248.2	4.7
70°-80°	177.6	3.4
80°-90°	109.2	2.1
90°-100°	140.3	2.7
100°-110°	269.8	5.1
110°-120°	408.4	7.8
120°-130°	512.9	9.8
130°-140°	563.9	10.7
140°-150°	547.9	10.4
150°-160°	459.8	8.8
160°-170°	306.0	5.8
170°-180°	107.2	2.0
0°-30°	482.3	9.2
0°-40°	785.0	15.0
0°-60°	1398.8	26.6
0°-90°	1933.8	36.8
90°-120°	818.4	15.6
90°-150°	2443.2	46.5
90°-180°	3316.0	63.2
0°-180°	5250.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	10	52	98	124	134	9
95°	60	93	134	157	165	65
105°	206	225	261	280	288	220
115°	382	393	415	432	437	378
125°	556	559	576	587	588	496
135°	720	724	731	739	741	554
145°	872	873	876	880	880	544
155°	998	998	999	1002	996	459
165°	1087	1084	1084	1089	1083	306
175°	1130	1127	1127	1132	1126	107
180°	1133	1133	1133	1133	1133	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.4	26.3	34.2	42.2	50.2	58.2	66.5	74.8	83.0	91.3	96.6
90°	9.8	19.2	28.6	38.0	47.4	57.3	67.6	77.9	88.3	98.5	104.5
92.5°	29.9	37.9	46.0	54.0	62.1	70.6	79.7	88.8	97.9	107.0	112.7
95°	60.0	67.3	74.6	81.9	89.3	97.4	106.5	115.5	124.5	133.5	139.0
97.5°	100.0	106.4	112.7	119.1	125.5	132.8	141.1	149.3	157.6	165.8	171.2
100°	127.2	133.2	139.3	145.3	151.4	158.4	166.4	174.3	182.3	190.3	195.3
102.5°	158.7	163.8	168.9	174.0	179.1	185.7	193.9	202.0	210.2	218.3	223.2
105°	205.7	209.8	213.8	217.8	221.9	228.1	236.4	244.7	253.0	261.3	265.6
107.5°	259.8	263.1	266.4	269.7	273.1	278.2	285.1	292.0	298.9	305.9	310.5
110°	293.4	296.5	299.6	302.7	305.9	310.7	317.2	323.6	330.1	336.5	341.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	329.0	331.4	333.9	336.4	338.9	343.1	349.0	354.9	360.9	366.8	371.5
115°	381.7	384.1	386.6	389.0	391.4	395.1	400.2	405.3	410.4	415.4	419.2
117.5°	435.3	436.8	438.4	439.9	441.4	444.5	449.1	453.7	458.3	463.0	466.5
120°	468.2	470.2	472.2	474.1	476.1	479.0	483.0	487.1	491.1	495.1	498.4
122.5°	503.2	504.4	505.7	506.9	508.2	511.0	515.2	519.5	523.7	528.0	530.8
125°	555.7	556.2	556.9	557.5	558.0	560.4	564.4	568.4	572.4	576.4	578.8
127.5°	604.8	605.9	607.1	608.1	609.3	611.4	614.7	617.9	621.1	624.3	626.2
130°	637.6	639.0	640.4	641.9	643.3	645.2	647.6	650.1	652.6	655.1	657.1
132.5°	669.8	671.4	672.9	674.5	676.0	677.8	679.8	681.8	683.8	685.7	687.6
135°	719.7	720.7	721.8	722.8	723.8	725.1	726.6	728.0	729.5	730.9	732.9
137.5°	765.8	766.7	767.6	768.5	769.3	770.4	772.0	773.4	774.8	776.3	777.8
140°	797.4	798.3	799.3	800.3	801.3	802.1	802.8	803.4	804.1	804.7	806.8
142.5°	826.5	827.4	828.2	829.1	830.0	830.6	831.1	831.5	832.0	832.4	834.3
145°	872.1	872.4	872.6	872.8	873.1	873.5	874.1	874.7	875.3	875.8	876.9
147.5°	911.3	912.0	912.8	913.5	914.2	914.8	915.3	915.9	916.4	917.0	917.4
150°	939.1	939.5	939.9	940.2	940.7	941.0	941.5	941.8	942.3	942.6	942.6
152.5°	961.9	962.4	963.0	963.5	964.0	964.5	964.7	964.9	965.2	965.5	965.7
155°	997.8	997.8	997.8	997.8	997.8	997.9	998.1	998.3	998.5	998.7	999.5
157.5°	1028.4	1028.2	1028.0	1027.7	1027.5	1027.4	1027.6	1027.8	1028.0	1028.1	1028.9
160°	1047.7	1047.2	1046.9	1046.5	1046.1	1045.9	1045.9	1045.9	1045.9	1045.9	1046.9
162.5°	1064.8	1064.2	1063.6	1063.1	1062.6	1062.4	1062.5	1062.7	1062.8	1063.0	1064.0
165°	1086.8	1086.2	1085.7	1085.0	1084.5	1084.1	1084.1	1084.1	1084.1	1084.1	1085.3
167.5°	1104.5	1103.7	1102.9	1102.1	1101.3	1101.0	1101.2	1101.3	1101.4	1101.6	1102.9
170°	1114.5	1113.7	1112.9	1112.1	1111.3	1110.9	1110.9	1110.9	1110.9	1110.9	1112.2
172.5°	1122.2	1121.5	1120.7	1119.9	1119.1	1118.7	1118.7	1118.7	1118.7	1118.7	1119.9
175°	1130.4	1129.6	1128.8	1128.1	1127.3	1126.9	1126.9	1126.9	1126.9	1126.9	1128.1
177.5°	1133.8	1133.2	1132.6	1131.9	1131.3	1131.0	1131.0	1131.0	1131.0	1131.0	1131.9
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	101.9	107.3	112.5	116.0	117.6	119.2	120.8	122.4
90°	110.5	116.4	122.3	126.3	128.2	130.1	132.1	133.9
92.5°	118.3	124.0	129.7	133.1	134.3	135.5	136.6	137.8
95°	144.5	150.0	155.5	159.0	160.5	162.0	163.5	165.1
97.5°	176.6	182.1	187.5	190.9	192.4	193.9	195.3	196.7
100°	200.3	205.3	210.3	213.7	215.6	217.6	219.5	221.3
102.5°	228.1	232.9	237.8	240.9	242.5	243.9	245.3	246.7
105°	269.8	274.0	278.3	281.3	283.0	284.8	286.6	288.4
107.5°	315.2	319.9	324.7	327.5	328.6	329.8	330.8	331.9
110°	346.1	350.8	355.5	358.3	359.1	359.9	360.8	361.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	376.3	381.1	385.8	388.9	390.1	391.4	392.6	393.9
115°	423.1	427.0	430.8	433.2	434.2	435.2	436.2	437.2
117.5°	470.1	473.7	477.2	479.4	480.0	480.6	481.3	481.9
120°	501.7	505.0	508.3	510.2	511.0	511.6	512.3	512.9
122.5°	533.7	536.5	539.4	541.1	541.6	542.1	542.6	543.1
125°	581.2	583.6	585.9	587.3	587.5	587.9	588.2	588.4
127.5°	628.1	630.0	631.9	632.8	633.0	633.1	633.3	633.4
130°	659.2	661.3	663.4	664.2	663.7	663.3	662.8	662.3
132.5°	689.4	691.2	693.0	693.9	693.8	693.8	693.8	693.8
135°	734.9	736.8	738.7	739.9	740.2	740.7	741.0	741.4
137.5°	779.4	781.0	782.6	783.4	783.4	783.4	783.4	783.4
140°	808.9	810.9	813.1	813.8	813.2	812.5	811.9	811.3
142.5°	836.2	837.9	839.8	840.5	840.3	839.9	839.6	839.3
145°	877.9	879.0	879.9	880.4	880.2	880.0	879.8	879.6
147.5°	917.7	918.1	918.5	918.3	917.7	917.0	916.4	915.8
150°	942.6	942.6	942.6	942.2	941.3	940.4	939.5	938.6
152.5°	966.1	966.3	966.7	966.3	965.4	964.4	963.5	962.5
155°	1000.3	1001.1	1001.8	1001.6	1000.2	998.8	997.4	996.0
157.5°	1029.7	1030.6	1031.4	1031.3	1030.2	1029.0	1028.0	1026.8
160°	1047.8	1048.8	1049.8	1049.9	1049.2	1048.4	1047.6	1046.8
162.5°	1065.0	1066.0	1066.9	1066.8	1065.5	1064.3	1063.0	1061.8
165°	1086.5	1087.7	1088.9	1088.8	1087.4	1086.0	1084.7	1083.3
167.5°	1104.0	1105.3	1106.5	1106.5	1105.3	1104.0	1102.9	1101.6
170°	1113.7	1115.0	1116.4	1116.4	1115.0	1113.7	1112.2	1110.9
172.5°	1121.1	1122.4	1123.6	1123.6	1122.1	1120.8	1119.4	1117.9
175°	1129.3	1130.4	1131.7	1131.5	1130.2	1128.7	1127.4	1126.0
177.5°	1132.9	1133.8	1134.8	1134.7	1133.6	1132.5	1131.4	1130.2
180°	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1	1133.1

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