

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: P332512-840

Luminaire Tested: **S124DIP-S350D810U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332512-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D810U840-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4290.4 lumens
Efficiency: N/A
Efficacy: 137.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

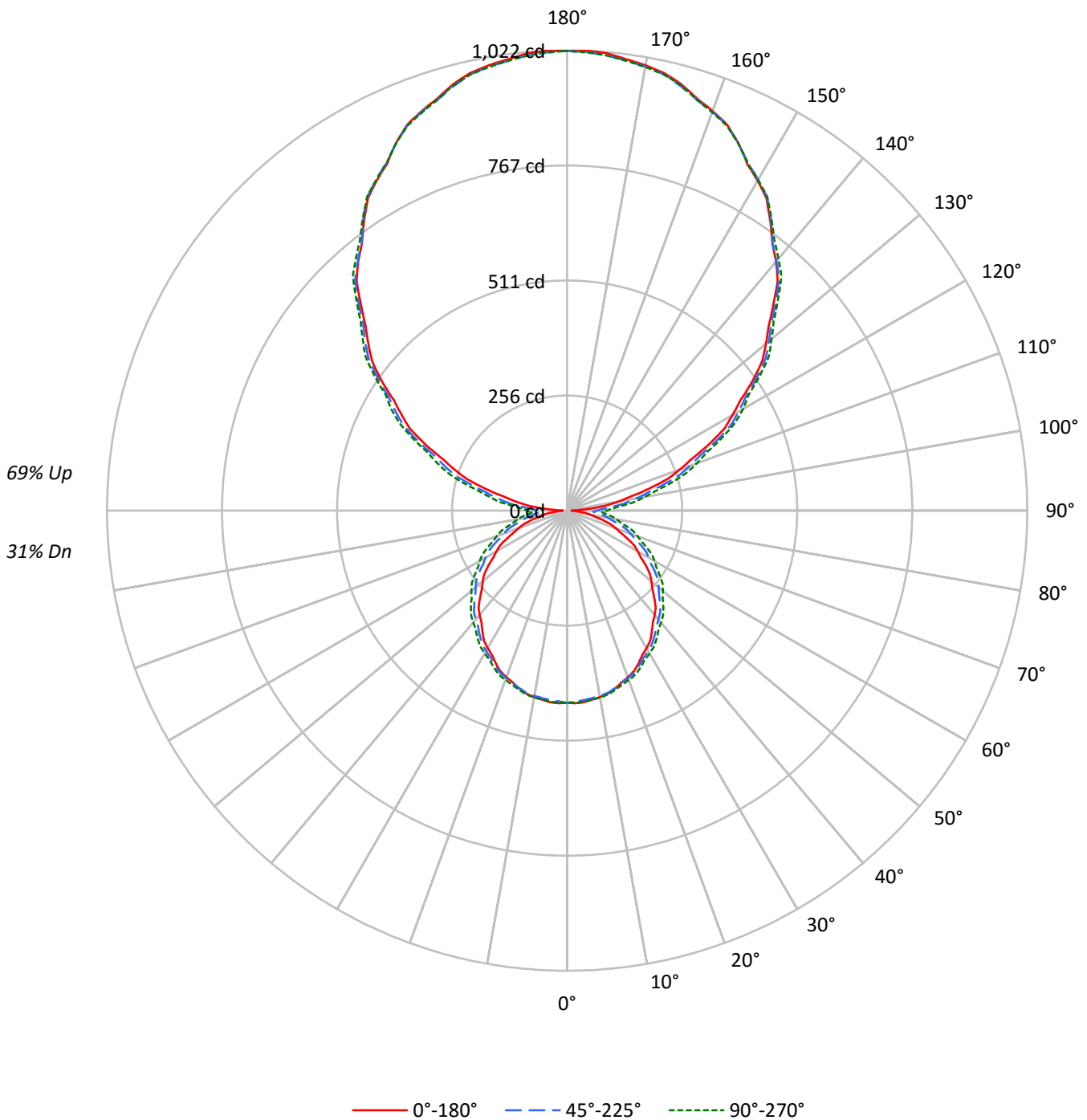
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	39	39	39	31
1	93	88	84	81	83	80	76	73	63	61	58	48	46	45	33	33	32	25
2	84	77	71	65	75	69	64	59	55	51	48	41	39	37	29	27	26	21
3	77	67	60	54	69	61	54	49	48	43	40	36	33	31	25	24	22	17
4	70	59	51	45	63	53	47	41	42	38	34	32	29	26	23	20	19	14
5	64	53	45	39	57	47	40	35	38	33	29	29	25	22	20	18	16	12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	49	38	31	26	31	25	22	23	20	17	17	14	12	10
8	50	38	31	25	45	35	28	23	28	23	19	21	18	15	15	13	11	8
9	47	35	27	22	42	31	25	21	25	20	17	20	16	13	14	12	10	8
10	44	32	25	20	39	29	23	18	23	18	15	18	14	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.9
10°-20°	115.8	2.7
20°-30°	175.1	4.1
30°-40°	211.9	4.9
40°-50°	224.0	5.2
50°-60°	210.8	4.9
60°-70°	174.9	4.1
70°-80°	122.9	2.9
80°-90°	72.5	1.7
90°-100°	108.6	2.5
100°-110°	230.0	5.4
110°-120°	359.0	8.4
120°-130°	458.0	10.7
130°-140°	506.3	11.8
140°-150°	493.6	11.5
150°-160°	414.3	9.7
160°-170°	275.7	6.4
170°-180°	96.5	2.2
0°-30°	331.4	7.7
0°-40°	543.2	12.7
0°-60°	978.1	22.8
0°-90°	1348.3	31.4
90°-120°	697.6	16.3
90°-150°	2155.5	50.2
90°-180°	2942.0	68.6
0°-180°	4290.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	10	38	65	83	89	8
95°	54	77	102	116	121	58
105°	188	199	219	233	240	200
115°	347	352	365	374	377	342
125°	503	503	514	521	523	448
135°	648	652	656	661	662	501
145°	786	789	790	791	791	492
155°	900	900	899	902	899	414
165°	980	977	976	980	977	276
175°	1019	1015	1014	1020	1014	97
180°	1021	1021	1021	1021	1021	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.6	19.4	24.0	28.8	33.5	38.4	43.2	48.2	53.1	58.1	61.4
90°	10.0	16.2	22.4	28.6	34.7	40.8	46.8	52.7	58.7	64.7	68.9
92.5°	24.1	30.2	36.3	42.3	48.3	54.1	59.7	65.2	70.8	76.2	79.9
95°	53.6	58.7	63.7	68.9	73.9	79.3	84.8	90.4	96.0	101.6	105.0
97.5°	88.4	92.7	96.9	101.2	105.5	110.5	116.2	122.0	127.7	133.5	136.9
100°	115.8	119.3	122.7	126.1	129.7	134.2	140.0	145.7	151.4	157.1	160.4
102.5°	144.8	147.5	150.3	153.0	155.6	159.8	165.2	170.8	176.2	181.8	185.0
105°	188.2	190.6	192.9	195.1	197.4	201.0	205.5	210.2	214.8	219.4	222.7
107.5°	234.7	236.7	238.6	240.5	242.6	245.4	249.2	253.1	256.9	260.7	263.9
110°	265.9	267.8	269.6	271.5	273.3	276.0	279.5	283.1	286.6	290.1	292.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	298.4	299.8	301.1	302.6	304.0	306.3	309.5	312.8	316.0	319.2	321.4
115°	347.1	348.0	349.0	349.9	350.9	352.9	356.0	359.0	362.0	365.1	367.3
117.5°	393.4	394.2	394.9	395.6	396.3	398.1	401.0	403.9	406.9	409.8	411.4
120°	423.9	425.1	426.1	427.1	428.1	429.9	432.4	434.9	437.5	440.1	441.3
122.5°	456.2	456.6	456.9	457.3	457.6	459.1	461.7	464.4	467.1	469.7	471.3
125°	503.2	503.1	503.0	502.9	502.8	504.0	506.4	509.0	511.5	513.9	515.6
127.5°	546.2	546.6	547.1	547.5	548.0	549.1	550.8	552.5	554.3	556.0	557.6
130°	576.2	576.6	577.0	577.4	577.8	579.0	580.7	582.3	584.0	585.7	587.3
132.5°	607.1	607.4	607.7	607.9	608.2	609.0	610.3	611.5	612.7	613.9	615.3
135°	647.5	648.6	649.6	650.8	651.8	652.7	653.4	654.2	654.9	655.6	657.0
137.5°	692.1	692.5	692.9	693.3	693.6	694.2	694.8	695.4	696.1	696.7	697.8
140°	721.8	722.1	722.3	722.5	722.8	723.0	723.1	723.2	723.3	723.4	724.6
142.5°	748.5	748.9	749.2	749.5	749.8	749.9	749.7	749.5	749.3	749.1	750.3
145°	786.1	786.6	787.2	787.8	788.4	788.8	789.0	789.1	789.3	789.5	789.9
147.5°	823.3	824.0	824.8	825.5	826.3	826.6	826.4	826.3	826.1	826.0	826.0
150°	846.1	846.7	847.2	847.8	848.4	848.7	848.7	848.7	848.7	848.7	848.7
152.5°	867.2	867.5	867.9	868.3	868.7	869.0	869.1	869.3	869.4	869.6	870.0
155°	900.0	900.0	900.0	900.0	900.0	899.9	899.8	899.6	899.4	899.3	899.9
157.5°	927.9	927.5	927.2	926.9	926.6	926.3	926.3	926.3	926.2	926.2	926.8
160°	944.2	944.0	943.9	943.7	943.5	943.3	943.2	943.0	942.8	942.7	943.2
162.5°	959.4	959.0	958.5	958.1	957.6	957.3	957.0	956.9	956.7	956.5	957.6
165°	979.8	979.3	978.8	978.2	977.7	977.2	976.8	976.5	976.1	975.8	976.8
167.5°	995.4	994.6	993.9	993.2	992.5	992.1	992.1	992.2	992.2	992.2	993.3
170°	1004.2	1003.4	1002.5	1001.6	1000.8	1000.4	1000.6	1000.8	1000.9	1001.1	1002.1
172.5°	1010.6	1009.9	1009.1	1008.4	1007.6	1007.2	1007.3	1007.3	1007.3	1007.4	1008.6
175°	1019.3	1018.3	1017.4	1016.6	1015.7	1015.2	1015.0	1014.8	1014.7	1014.5	1015.7
177.5°	1022.1	1021.4	1020.7	1020.0	1019.3	1019.0	1019.0	1019.0	1019.0	1019.0	1019.9
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	64.6	68.0	71.2	73.4	74.4	75.3	76.3	77.4
90°	72.9	77.1	81.2	83.9	85.1	86.2	87.5	88.7
92.5°	83.5	87.2	90.8	93.1	94.2	95.2	96.3	97.4
95°	108.4	111.8	115.1	117.3	118.3	119.3	120.2	121.2
97.5°	140.4	143.8	147.1	149.4	150.3	151.2	152.1	153.0
100°	163.6	166.7	170.0	172.0	172.7	173.5	174.2	174.9
102.5°	188.2	191.6	194.8	196.9	197.9	198.9	199.9	200.9
105°	225.8	229.0	232.2	234.5	235.8	237.2	238.6	239.9
107.5°	266.9	270.0	273.2	275.1	275.8	276.5	277.2	278.0
110°	294.4	296.4	298.5	300.2	301.6	303.0	304.4	305.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	323.8	326.1	328.3	329.9	330.9	331.8	332.9	333.8
115°	369.4	371.6	373.8	375.2	375.7	376.3	376.8	377.4
117.5°	413.0	414.7	416.3	417.3	417.8	418.3	418.8	419.3
120°	442.5	443.8	445.0	446.3	447.5	448.7	449.9	451.1
122.5°	472.8	474.3	475.8	476.7	476.9	477.0	477.1	477.2
125°	517.3	519.0	520.6	521.6	521.9	522.1	522.4	522.7
127.5°	559.2	560.8	562.3	563.3	563.7	564.2	564.6	565.1
130°	588.9	590.4	592.0	592.7	592.7	592.6	592.5	592.5
132.5°	616.8	618.3	619.8	620.7	621.1	621.4	621.8	622.2
135°	658.3	659.6	661.1	661.8	661.9	662.0	662.1	662.2
137.5°	698.9	700.0	701.0	702.0	702.6	703.3	703.9	704.5
140°	725.8	727.0	728.2	728.9	729.3	729.6	730.0	730.3
142.5°	751.4	752.7	753.8	754.6	755.0	755.4	755.9	756.3
145°	790.4	790.9	791.3	791.5	791.4	791.3	791.2	791.1
147.5°	825.9	825.8	825.8	825.8	826.0	826.2	826.3	826.5
150°	848.7	848.7	848.7	848.6	848.5	848.3	848.1	847.9
152.5°	870.4	870.8	871.2	871.2	870.8	870.3	869.9	869.4
155°	900.6	901.3	902.0	902.0	901.3	900.6	899.9	899.3
157.5°	927.3	927.9	928.4	928.3	927.8	927.2	926.6	925.9
160°	943.7	944.2	944.7	944.6	943.7	942.8	942.0	941.1
162.5°	958.5	959.4	960.4	960.4	959.5	958.7	957.8	956.8
165°	978.0	979.0	980.1	980.2	979.5	978.8	978.1	977.4
167.5°	994.3	995.4	996.4	996.4	995.3	994.2	993.2	992.1
170°	1003.2	1004.2	1005.3	1005.2	1004.0	1002.8	1001.5	1000.3
172.5°	1009.8	1011.0	1012.2	1012.2	1011.0	1009.7	1008.5	1007.2
175°	1016.9	1018.1	1019.5	1019.5	1018.1	1016.9	1015.7	1014.5
177.5°	1020.9	1021.9	1022.9	1022.8	1021.7	1020.6	1019.5	1018.2
180°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8

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