

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: P333038-840

Luminaire Tested: **S124RDIW-S575D470U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333038-840
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: S124RDIW-S575D470U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4014.5 lumens
Efficiency: N/A
Efficacy: 132.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

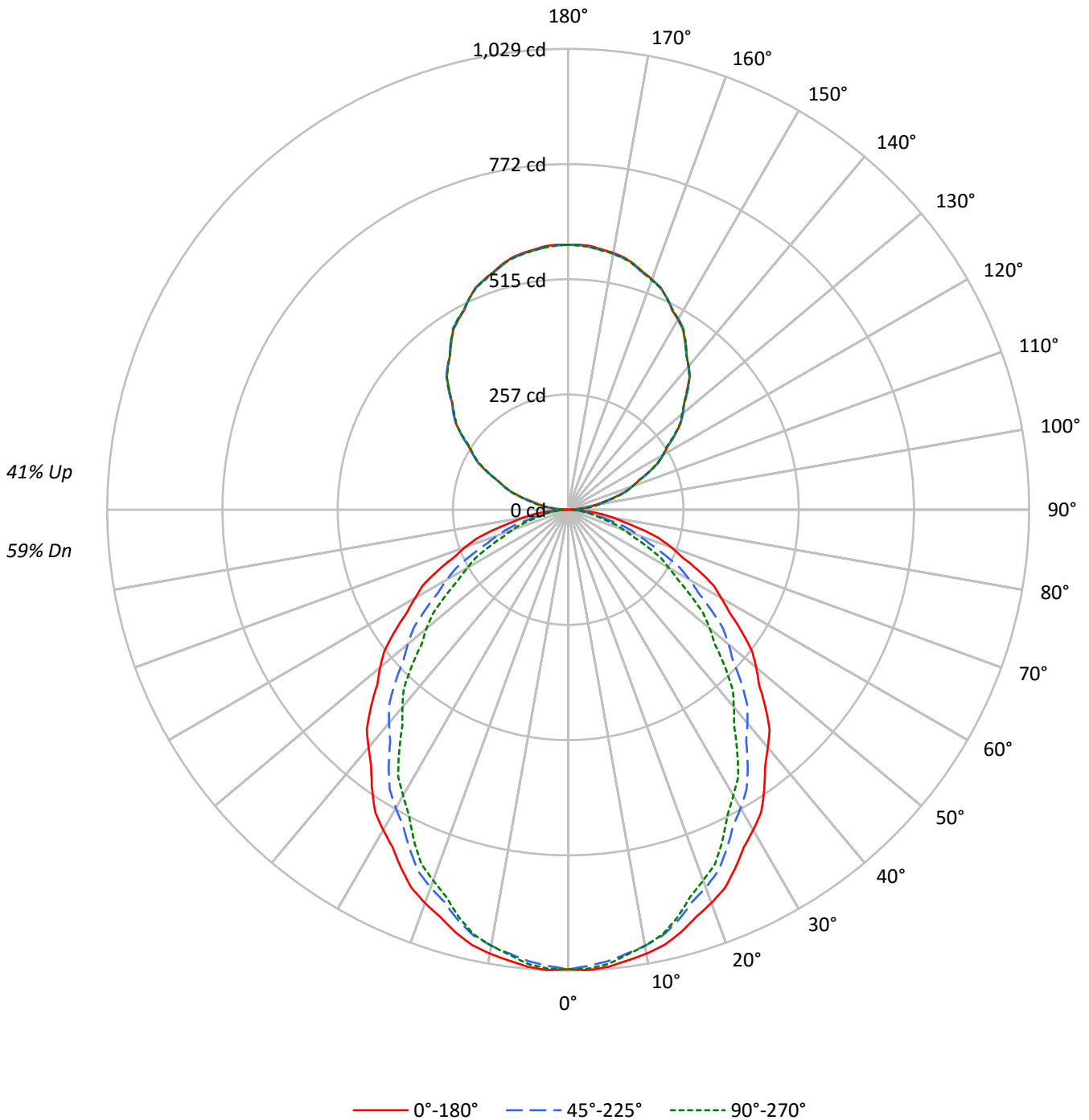
Input Watts (W): 30.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59
1	100	96	92	89	93	90	86	83	78	76	73	67	66	64	58	56	55	50
2	91	84	78	73	85	79	73	69	69	65	61	60	57	54	51	49	47	43
3	84	74	67	61	78	70	63	58	61	56	52	53	49	46	45	43	40	37
4	77	66	58	52	71	62	55	49	54	49	44	47	43	40	41	38	35	32
5	71	59	51	45	66	55	48	43	49	43	39	43	38	35	37	33	31	28
6	65	53	45	39	61	50	43	37	44	38	34	39	34	30	34	30	27	24
7	60	48	40	34	56	45	38	33	40	34	30	35	31	27	31	27	24	22
8	56	44	36	31	52	41	34	29	37	31	27	32	28	24	28	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	25	22	26	22	20	18
10	49	37	30	25	46	35	28	24	31	26	22	28	23	20	24	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8285	8285	8285
5°	8304	8203	8253
10°	8252	8104	8104
15°	8157	7934	7875
20°	8027	7710	7568
25°	7861	7448	7259
30°	7699	7171	6871
35°	7521	6885	6482
40°	7304	6559	6062
45°	7106	6235	5634
50°	6880	5863	5181
55°	6636	5475	4690
60°	6370	5050	4187
65°	6124	4518	3692
70°	5769	3932	3135
75°	5321	3260	2548
80°	4640	2483	2338
85°	3927	2251	2112



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.4	2.4
10°-20°	268.8	6.7
20°-30°	388.2	9.7
30°-40°	440.0	11.0
40°-50°	424.9	10.6
50°-60°	353.4	8.8
60°-70°	244.0	6.1
70°-80°	123.7	3.1
80°-90°	33.5	0.8
90°-100°	39.0	1.0
100°-110°	115.6	2.9
110°-120°	196.2	4.9
120°-130°	258.7	6.4
130°-140°	290.6	7.2
140°-150°	285.5	7.1
150°-160°	240.2	6.0
160°-170°	159.8	4.0
170°-180°	56.0	1.4
0°-30°	753.5	18.8
0°-40°	1193.5	29.7
0°-60°	1971.8	49.1
0°-90°	2372.9	59.1
90°-120°	350.9	8.7
90°-150°	1185.7	29.5
90°-180°	1642.0	40.9
0°-180°	4014.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1026	1026	1026	1026	1026	
5°	1025	1021	1012	1020	1018	97
15°	976	968	949	948	942	275
25°	882	867	836	823	815	406
35°	763	737	699	673	658	477
45°	622	592	546	509	494	480
55°	472	439	389	350	333	422
65°	321	286	236	204	193	317
75°	171	141	104	87	82	180
85°	42	28	24	23	23	48
90°	1	6	10	13	14	4
95°	28	32	35	36	36	31
105°	107	107	109	110	112	113
115°	200	199	199	198	198	197
125°	290	290	290	289	288	259
135°	375	377	378	377	375	290
145°	455	457	458	457	456	285
155°	522	522	521	523	521	240
165°	568	566	566	568	566	160
175°	591	589	588	591	588	56
180°	592	592	592	592	592	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1028.9	1028.2	1027.7	1027.1	1026.6	1025.5	1024.0	1022.5	1020.9	1019.4	1020.9
5°	1024.7	1024.0	1023.3	1022.6	1022.0	1020.6	1018.4	1016.3	1014.2	1012.2	1013.9
7.5°	1015.4	1014.7	1014.0	1013.3	1012.5	1010.8	1008.0	1005.3	1002.6	999.9	1001.0
10°	1006.6	1005.8	1004.9	1004.0	1003.2	1001.2	998.0	994.8	991.7	988.6	989.3
12.5°	995.3	994.3	993.3	992.3	991.3	989.0	985.2	981.5	977.9	974.1	974.5
15°	976.0	974.4	972.9	971.3	969.7	966.7	962.4	958.1	953.6	949.3	949.0
17.5°	952.6	950.3	948.1	945.7	943.5	939.8	934.5	929.3	924.0	918.8	917.9
20°	934.3	932.1	929.8	927.6	925.2	921.2	915.2	909.3	903.3	897.5	896.1
22.5°	914.2	911.7	909.2	906.6	904.0	899.6	893.2	886.9	880.5	874.1	872.0
25°	882.5	879.4	876.2	873.0	869.9	864.7	857.6	850.4	843.2	836.2	833.1
27.5°	849.2	845.3	841.3	837.4	833.3	827.6	819.9	812.3	804.7	797.0	793.3
30°	825.9	821.5	817.2	812.8	808.5	802.1	794.0	785.8	777.5	769.3	765.0
32.5°	801.4	796.5	791.5	786.6	781.7	775.0	766.5	758.0	749.5	741.0	736.0
35°	763.1	757.5	751.8	746.3	740.7	733.6	724.8	716.1	707.3	698.6	692.7
37.5°	722.1	716.3	710.5	704.8	698.9	691.3	681.6	671.9	662.3	652.6	645.9
40°	693.1	687.3	681.6	675.8	670.0	662.2	652.3	642.3	632.4	622.4	615.0
42.5°	665.4	659.4	653.4	647.3	641.3	633.1	622.7	612.3	602.0	591.6	584.1
45°	622.4	615.9	609.5	603.0	596.5	588.0	577.5	567.1	556.6	546.1	537.6
47.5°	577.9	571.3	564.5	557.8	551.2	542.4	531.5	520.7	509.8	498.9	490.0
50°	547.8	540.9	534.1	527.3	520.5	511.5	500.3	489.2	478.0	466.8	458.1
52.5°	516.9	510.3	503.6	497.0	490.2	481.2	469.7	458.3	446.8	435.4	426.5
55°	471.5	464.5	457.6	450.5	443.5	434.3	423.0	411.7	400.3	389.0	379.9
57.5°	426.6	419.3	412.0	404.8	397.5	388.3	377.1	365.9	354.8	343.6	334.4
60°	394.5	387.5	380.5	373.5	366.6	357.5	346.3	335.1	324.0	312.8	303.7
62.5°	365.6	358.3	351.0	343.8	336.5	327.2	315.7	304.3	292.8	281.3	273.0
65°	320.6	313.2	305.6	298.1	290.5	281.2	270.0	258.9	247.7	236.5	229.0
67.5°	274.0	266.7	259.5	252.4	245.2	236.4	226.0	215.6	205.3	194.9	188.4
70°	244.4	237.0	229.7	222.4	215.1	206.4	196.4	186.5	176.5	166.6	160.9
72.5°	213.0	206.3	199.7	193.1	186.4	178.4	169.1	159.7	150.2	140.8	135.9
75°	170.6	164.1	157.6	151.2	144.7	137.3	129.2	120.9	112.7	104.5	100.5
77.5°	127.4	122.0	116.5	111.0	105.5	99.5	92.8	86.2	79.6	72.9	70.6
80°	99.8	94.7	89.7	84.6	79.6	74.4	69.2	63.9	58.7	53.4	52.9
82.5°	75.9	71.3	66.7	62.0	57.4	53.5	50.5	47.5	44.5	41.5	41.1
85°	42.4	39.0	35.4	31.9	28.5	26.5	26.0	25.4	24.8	24.3	24.0
87.5°	14.7	13.8	12.9	12.0	11.1	10.7	10.7	10.8	10.8	10.8	10.8
90°	1.4	2.5	3.6	4.7	5.9	6.8	7.7	8.5	9.3	10.1	10.7
92.5°	9.8	11.1	12.3	13.6	14.9	15.9	16.5	17.0	17.6	18.1	18.5
95°	27.5	28.4	29.3	30.2	31.1	31.9	32.6	33.3	34.0	34.7	35.0
97.5°	48.0	48.7	49.4	50.2	50.9	51.7	52.5	53.3	54.1	55.0	55.3
100°	64.0	64.4	64.8	65.2	65.7	66.3	67.3	68.2	69.1	70.0	70.2
102.5°	80.9	81.1	81.2	81.4	81.6	82.1	82.9	83.7	84.5	85.4	85.6
105°	106.6	106.7	106.8	106.9	107.0	107.2	107.7	108.1	108.5	108.9	109.2
107.5°	133.6	133.7	133.9	134.0	134.1	134.2	134.3	134.3	134.4	134.4	134.7
110°	151.9	152.1	152.3	152.5	152.7	152.8	152.7	152.6	152.5	152.4	152.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	171.0	171.0	171.1	171.1	171.2	171.1	170.9	170.7	170.5	170.4	170.3
115°	199.5	199.5	199.5	199.5	199.5	199.4	199.2	199.0	198.8	198.6	198.5
117.5°	226.4	226.5	226.6	226.7	226.7	226.7	226.6	226.4	226.3	226.1	225.8
120°	244.4	244.8	245.2	245.6	246.0	246.0	245.7	245.4	245.1	244.8	244.3
122.5°	263.1	263.2	263.4	263.5	263.7	263.7	263.6	263.4	263.3	263.2	262.8
125°	290.5	290.5	290.5	290.5	290.5	290.5	290.4	290.3	290.2	290.1	289.9
127.5°	315.6	315.9	316.2	316.5	316.8	316.9	316.7	316.5	316.4	316.2	316.0
130°	333.2	333.5	333.8	334.1	334.4	334.5	334.5	334.5	334.5	334.5	334.3
132.5°	351.0	351.3	351.5	351.7	351.9	352.0	351.9	351.8	351.8	351.7	351.5
135°	374.8	375.4	376.0	376.6	377.2	377.5	377.5	377.5	377.5	377.5	377.3
137.5°	400.6	400.9	401.1	401.4	401.7	401.9	402.1	402.3	402.4	402.6	402.3
140°	417.8	418.0	418.2	418.4	418.6	418.7	418.7	418.7	418.7	418.7	418.6
142.5°	433.5	433.7	433.9	434.1	434.3	434.4	434.3	434.2	434.1	434.0	434.0
145°	455.3	455.8	456.2	456.6	457.0	457.2	457.3	457.4	457.5	457.6	457.5
147.5°	477.0	477.4	477.9	478.4	478.9	479.1	479.0	478.9	478.9	478.8	478.7
150°	490.1	490.5	490.9	491.3	491.7	491.9	491.9	491.9	491.9	491.9	491.9
152.5°	502.5	502.8	503.0	503.3	503.5	503.7	503.7	503.8	503.9	504.0	504.2
155°	521.7	521.7	521.7	521.7	521.7	521.6	521.5	521.4	521.3	521.2	521.6
157.5°	537.8	537.6	537.5	537.2	537.0	536.9	536.9	536.9	536.8	536.8	537.1
160°	547.3	547.2	547.1	547.0	546.9	546.8	546.7	546.6	546.5	546.4	546.7
162.5°	556.1	555.8	555.5	555.3	555.0	554.8	554.7	554.6	554.5	554.4	555.0
165°	567.8	567.5	567.2	566.9	566.6	566.4	566.2	566.0	565.8	565.6	566.2
167.5°	576.9	576.5	576.1	575.7	575.2	575.0	575.0	575.1	575.1	575.1	575.7
170°	582.1	581.6	581.1	580.6	580.1	579.9	580.0	580.1	580.2	580.3	580.9
172.5°	585.7	585.3	584.9	584.5	584.0	583.8	583.8	583.9	583.9	583.9	584.6
175°	590.8	590.3	589.8	589.3	588.8	588.4	588.3	588.2	588.1	588.0	588.8
177.5°	592.4	592.0	591.6	591.2	590.8	590.6	590.6	590.6	590.6	590.6	591.2
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3	1026.3
2.5°	1022.5	1024.0	1025.5	1026.2	1026.1	1025.9	1025.8	1025.7
5°	1015.6	1017.4	1019.2	1019.9	1019.5	1019.2	1018.8	1018.4
7.5°	1002.1	1003.2	1004.4	1004.6	1004.1	1003.5	1003.0	1002.4
10°	990.0	990.7	991.4	991.4	990.7	990.0	989.3	988.6
12.5°	974.9	975.3	975.8	975.5	974.5	973.6	972.6	971.6
15°	948.6	948.3	947.9	947.2	945.8	944.6	943.4	942.2
17.5°	916.9	915.8	914.8	913.4	911.6	909.8	907.9	906.1
20°	894.6	893.2	891.8	890.0	887.8	885.4	883.2	880.9
22.5°	870.0	867.9	865.8	863.8	861.9	860.1	858.3	856.4
25°	830.2	827.2	824.3	821.9	820.1	818.4	816.7	814.9
27.5°	789.6	786.0	782.3	779.2	776.7	774.2	771.7	769.2
30°	760.6	756.2	751.8	748.3	745.5	742.7	739.9	737.1
32.5°	730.9	725.9	720.7	716.9	714.3	711.7	708.9	706.3
35°	686.7	680.8	674.9	670.3	667.2	664.0	660.9	657.7
37.5°	639.2	632.7	626.0	621.2	617.9	614.8	611.7	608.5
40°	607.7	600.4	593.0	587.8	584.6	581.5	578.3	575.2
42.5°	576.6	569.2	561.7	556.3	553.0	549.8	546.4	543.2
45°	529.1	520.5	511.9	506.0	502.9	499.8	496.7	493.5
47.5°	481.1	472.2	463.3	457.2	453.7	450.3	446.9	443.3
50°	449.3	440.6	431.8	425.9	422.5	419.2	415.9	412.5
52.5°	417.6	408.7	399.9	393.7	390.2	386.8	383.3	379.9
55°	370.8	361.7	352.6	346.5	343.2	339.8	336.5	333.2
57.5°	325.1	315.9	306.7	300.8	298.3	295.8	293.3	290.7
60°	294.6	285.5	276.4	270.5	267.7	264.9	262.2	259.3
62.5°	264.6	256.2	247.8	242.5	240.2	238.0	235.8	233.6
65°	221.6	214.0	206.5	201.7	199.7	197.5	195.4	193.3
67.5°	182.0	175.5	169.1	164.7	162.4	160.1	157.7	155.4
70°	155.1	149.4	143.5	139.8	138.0	136.3	134.5	132.8
72.5°	131.0	126.0	121.1	117.9	116.2	114.6	113.0	111.4
75°	96.4	92.5	88.5	85.9	84.8	83.8	82.8	81.7
77.5°	68.3	65.9	63.5	62.2	61.9	61.6	61.3	61.0
80°	52.4	51.9	51.3	51.0	50.8	50.6	50.5	50.3
82.5°	40.7	40.3	40.0	39.7	39.5	39.3	39.2	39.0
85°	23.6	23.3	22.9	22.8	22.8	22.8	22.8	22.8
87.5°	10.8	10.8	10.7	10.8	11.0	11.2	11.4	11.5
90°	11.3	11.9	12.5	12.9	13.1	13.3	13.5	13.7
92.5°	18.9	19.2	19.6	19.8	20.0	20.1	20.2	20.3
95°	35.3	35.6	36.0	36.2	36.2	36.2	36.2	36.2
97.5°	55.7	56.1	56.5	56.7	56.7	56.7	56.7	56.7
100°	70.4	70.6	70.8	70.9	70.9	70.9	70.9	70.9
102.5°	85.9	86.2	86.5	86.7	86.7	86.8	86.9	87.1
105°	109.6	109.9	110.2	110.5	110.8	111.1	111.4	111.7
107.5°	135.0	135.3	135.6	135.7	135.7	135.7	135.6	135.6
110°	152.0	151.8	151.6	151.6	151.9	152.2	152.5	152.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	170.3	170.2	170.2	170.2	170.3	170.3	170.4	170.4
115°	198.4	198.3	198.2	198.1	198.0	197.9	197.8	197.7
117.5°	225.5	225.1	224.8	224.5	224.3	224.1	223.9	223.7
120°	243.8	243.3	242.8	242.7	242.9	243.1	243.3	243.5
122.5°	262.5	262.1	261.8	261.4	261.1	260.6	260.2	259.9
125°	289.7	289.5	289.3	289.1	288.9	288.7	288.5	288.3
127.5°	315.8	315.6	315.4	315.2	315.1	314.9	314.8	314.6
130°	334.1	333.9	333.7	333.4	333.0	332.5	332.1	331.7
132.5°	351.3	351.1	350.9	350.7	350.5	350.4	350.2	350.1
135°	377.1	376.9	376.7	376.5	376.2	375.9	375.6	375.3
137.5°	402.0	401.8	401.5	401.4	401.5	401.5	401.6	401.7
140°	418.5	418.4	418.3	418.2	418.1	418.0	417.9	417.8
142.5°	434.0	434.0	434.0	433.9	433.9	433.9	433.9	433.9
145°	457.4	457.3	457.2	457.0	456.7	456.4	456.1	455.8
147.5°	478.6	478.5	478.5	478.4	478.3	478.2	478.1	478.0
150°	491.9	491.9	491.9	491.9	491.8	491.7	491.6	491.5
152.5°	504.5	504.7	505.0	504.9	504.7	504.4	504.2	503.9
155°	522.0	522.4	522.8	522.8	522.4	522.0	521.6	521.2
157.5°	537.5	537.8	538.1	538.1	537.8	537.3	537.0	536.6
160°	547.0	547.3	547.6	547.5	547.0	546.5	545.9	545.4
162.5°	555.5	556.1	556.6	556.6	556.1	555.6	555.1	554.6
165°	566.8	567.4	568.0	568.2	567.7	567.3	566.9	566.5
167.5°	576.3	576.9	577.5	577.5	576.9	576.3	575.6	575.0
170°	581.5	582.1	582.7	582.6	581.9	581.2	580.5	579.8
172.5°	585.3	586.0	586.6	586.6	585.9	585.2	584.5	583.8
175°	589.5	590.2	590.9	590.9	590.2	589.5	588.8	588.0
177.5°	591.8	592.3	592.9	592.8	592.2	591.6	590.9	590.3
180°	591.7	591.7	591.7	591.7	591.7	591.7	591.7	591.7

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