

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: P331925-840

Luminaire Tested: **S123DIP-S560D585U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331925-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4707.4 lumens
Efficiency: N/A
Efficacy: 143.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

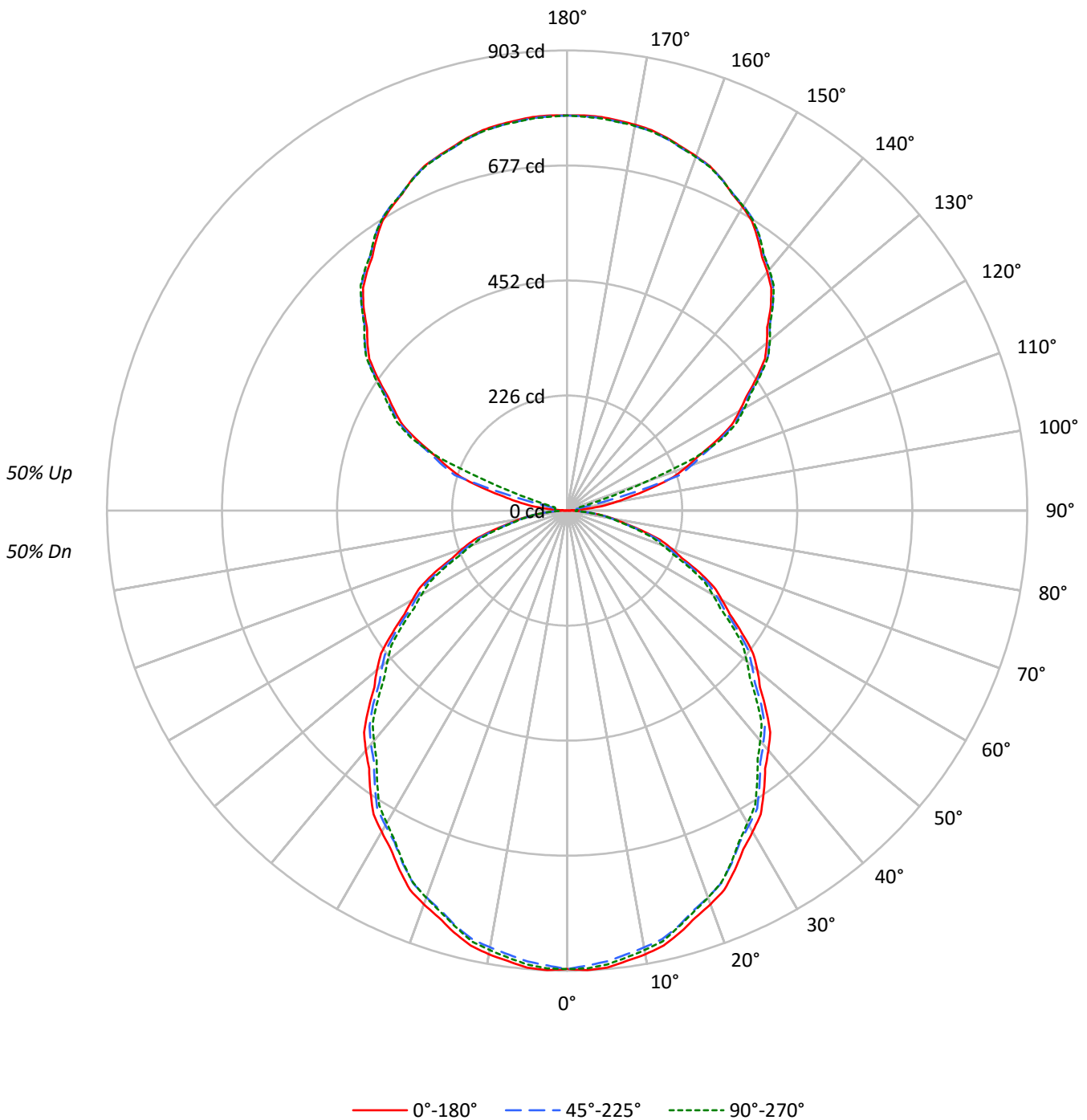
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83		69	69	69		56	56	56	50
1	98	93	89	86	90	86	83	80	73	70	68		61	59	57		49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56		53	50	48		43	41	40	35
3	81	72	64	58	74	66	60	55	56	51	47		47	43	40		38	36	34	30
4	74	63	55	49	68	59	52	46	50	45	40		42	38	35		34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35		38	33	30		31	28	25	22
6	63	51	42	37	58	47	40	34	40	35	30		34	30	26		28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27		31	26	23		26	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24		28	24	21		23	20	18	15
9	50	38	30	25	46	35	29	24	30	25	21		26	22	19		22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19		24	20	17		20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9684	9684	9684
5°	9729	9596	9662
10°	9664	9512	9571
15°	9551	9404	9423
20°	9419	9251	9260
25°	9242	9069	9049
30°	9047	8866	8797
35°	8843	8650	8539
40°	8630	8413	8283
45°	8397	8196	7995
50°	8162	7927	7708
55°	7854	7651	7418
60°	7543	7326	7093
65°	7272	6976	6757
70°	6864	6571	6279
75°	6276	6047	5793
80°	5659	5424	5368
85°	4965	4780	4594



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	1.8
10°-20°	239.3	5.1
20°-30°	353.5	7.5
30°-40°	412.9	8.8
40°-50°	415.1	8.8
50°-60°	364.6	7.7
60°-70°	271.7	5.8
70°-80°	154.8	3.3
80°-90°	46.6	1.0
90°-100°	28.2	0.6
100°-110°	134.3	2.9
110°-120°	322.7	6.9
120°-130°	410.9	8.7
130°-140°	439.0	9.3
140°-150°	410.5	8.7
150°-160°	331.2	7.0
160°-170°	213.7	4.5
170°-180°	73.7	1.6
0°-30°	677.5	14.4
0°-40°	1090.4	23.2
0°-60°	1870.2	39.7
0°-90°	2343.2	49.8
90°-120°	485.2	10.3
90°-150°	1745.7	37.1
90°-180°	2364.0	50.2
0°-180°	4707.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	900	900	900	900	900	
5°	900	896	888	895	894	85
15°	857	854	844	850	846	242
25°	778	773	764	764	762	358
35°	673	668	658	654	650	421
45°	552	548	538	529	525	426
55°	418	417	408	399	395	375
65°	286	281	274	268	265	282
75°	151	148	145	142	139	161
85°	40	39	39	37	37	44
90°	1	6	14	16	17	4
95°	35	13	18	22	22	43
105°	172	175	126	30	25	182
115°	322	326	331	336	339	318
125°	454	458	461	462	463	405
135°	565	568	571	572	571	435
145°	652	656	657	658	658	408
155°	718	717	718	720	717	331
165°	757	756	755	759	756	214
175°	775	773	773	777	772	74
180°	775	775	775	775	775	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	902.7	902.2	901.7	901.1	900.6	899.5	898.0	896.5	895.0	893.5	894.8
5°	900.4	899.6	898.7	897.9	897.0	895.6	893.7	891.8	890.0	888.1	889.8
7.5°	891.6	890.8	889.9	889.1	888.2	886.8	884.8	882.8	880.9	879.0	880.5
10°	884.2	883.3	882.5	881.6	880.8	879.2	877.0	874.7	872.5	870.3	871.8
12.5°	874.3	873.5	872.8	872.1	871.4	870.0	867.9	865.8	863.7	861.6	862.7
15°	857.1	856.5	855.8	855.1	854.3	852.9	850.7	848.5	846.2	843.9	845.4
17.5°	837.2	836.3	835.4	834.5	833.5	832.0	829.8	827.6	825.4	823.0	824.0
20°	822.3	821.3	820.2	819.2	818.2	816.6	814.4	812.1	809.8	807.6	808.3
22.5°	805.6	804.6	803.5	802.5	801.4	799.8	797.6	795.4	793.1	790.9	791.4
25°	778.2	777.2	776.2	775.2	774.1	772.4	770.2	768.0	765.8	763.6	763.7
27.5°	749.0	748.0	747.0	746.0	745.0	743.3	740.8	738.5	736.1	733.7	733.8
30°	727.9	727.1	726.2	725.4	724.5	722.9	720.4	718.0	715.7	713.3	713.3
32.5°	706.9	705.8	704.6	703.5	702.4	700.8	699.0	697.1	695.3	693.5	692.5
35°	673.0	672.0	671.0	669.9	668.9	667.2	665.0	662.8	660.6	658.3	657.3
37.5°	638.3	637.0	635.7	634.4	633.1	631.4	629.0	626.8	624.5	622.3	621.1
40°	614.2	613.2	612.2	611.2	610.1	608.3	605.9	603.6	601.2	598.7	597.3
42.5°	590.1	589.0	587.7	586.5	585.4	583.6	581.2	578.9	576.4	574.0	572.6
45°	551.6	550.9	550.2	549.5	548.8	547.3	545.1	542.9	540.7	538.4	536.3
47.5°	513.3	512.3	511.4	510.4	509.4	507.8	505.7	503.6	501.5	499.4	497.4
50°	487.4	486.5	485.6	484.7	483.9	482.4	480.1	477.9	475.6	473.4	471.5
52.5°	460.1	459.5	459.0	458.4	457.8	456.3	453.9	451.6	449.2	446.9	445.2
55°	418.5	418.3	418.2	418.0	417.8	416.6	414.3	412.1	409.9	407.7	405.8
57.5°	378.9	378.3	377.7	377.2	376.6	375.4	373.5	371.8	370.0	368.2	366.6
60°	350.4	350.2	350.1	349.9	349.7	348.6	346.6	344.5	342.4	340.3	338.8
62.5°	325.1	324.6	324.2	323.8	323.3	322.0	319.9	317.9	315.8	313.8	312.3
65°	285.5	284.6	283.8	282.9	282.1	280.7	279.0	277.3	275.6	273.9	272.5
67.5°	243.5	242.8	242.0	241.3	240.4	239.4	238.1	236.8	235.5	234.3	233.1
70°	218.1	217.1	216.1	215.1	214.0	213.0	212.0	211.0	209.8	208.8	207.6
72.5°	191.6	190.8	190.1	189.2	188.5	187.5	186.4	185.2	184.0	182.9	181.8
75°	150.9	150.2	149.5	148.8	148.1	147.5	146.9	146.4	145.9	145.4	144.6
77.5°	114.8	114.4	114.0	113.7	113.3	112.8	112.2	111.6	110.9	110.3	109.8
80°	91.3	90.8	90.3	89.8	89.2	88.8	88.5	88.1	87.8	87.5	87.3
82.5°	68.4	68.3	68.2	68.1	68.0	67.9	67.9	67.8	67.7	67.7	67.3
85°	40.2	39.9	39.6	39.2	38.9	38.7	38.7	38.7	38.7	38.7	38.4
87.5°	16.2	16.1	15.9	15.8	15.6	15.6	15.8	16.0	16.2	16.4	16.4
90°	0.6	1.8	3.1	4.4	5.7	7.2	8.8	10.5	12.1	13.8	14.3
92.5°	10.7	10.4	10.0	9.6	9.3	9.7	11.0	12.2	13.5	14.7	15.6
95°	35.1	29.9	24.6	19.4	14.1	12.2	13.6	15.0	16.5	17.9	18.8
97.5°	70.6	68.3	65.9	63.5	61.2	55.4	46.2	37.0	27.8	18.6	19.6
100°	97.4	99.9	102.5	105.0	107.6	98.9	78.9	59.0	39.0	19.0	20.0
102.5°	127.7	129.6	131.5	133.3	135.1	125.1	103.3	81.5	59.7	37.9	34.7
105°	171.7	173.1	174.5	175.8	177.2	172.2	160.7	149.2	137.6	126.1	103.5
107.5°	217.9	219.0	220.3	221.4	222.5	223.9	225.7	227.5	229.3	231.2	214.6
110°	248.8	249.8	250.9	251.9	252.9	254.2	255.5	256.9	258.3	259.7	255.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	278.3	279.2	280.1	281.0	282.0	283.2	284.6	286.0	287.4	288.8	288.9
115°	321.9	322.8	323.5	324.3	325.1	326.0	327.2	328.3	329.4	330.6	331.9
117.5°	364.3	365.2	366.2	367.1	368.0	368.8	369.4	370.0	370.6	371.1	372.2
120°	390.5	391.6	392.8	393.9	395.2	395.9	396.3	396.7	397.1	397.4	398.5
122.5°	417.3	418.2	419.1	420.1	421.0	421.7	422.2	422.7	423.2	423.7	424.4
125°	453.8	454.9	456.0	457.0	458.0	458.8	459.3	459.8	460.3	460.8	461.0
127.5°	489.4	490.4	491.4	492.4	493.4	494.2	494.8	495.5	496.1	496.8	497.2
130°	511.5	512.5	513.5	514.5	515.5	516.3	516.8	517.4	517.9	518.4	518.9
132.5°	532.7	533.7	534.7	535.7	536.7	537.5	537.9	538.3	538.7	539.2	539.7
135°	565.0	565.8	566.5	567.3	568.2	568.8	569.3	569.8	570.3	570.8	571.2
137.5°	592.7	593.7	594.6	595.6	596.5	597.2	597.4	597.7	598.0	598.3	599.0
140°	611.1	611.9	612.7	613.4	614.2	614.8	615.1	615.5	615.9	616.3	616.8
142.5°	628.1	628.9	629.8	630.5	631.3	631.8	632.2	632.6	633.0	633.4	633.8
145°	652.0	652.9	653.8	654.7	655.6	656.2	656.4	656.7	656.9	657.2	657.4
147.5°	674.5	675.1	675.7	676.2	676.8	677.2	677.5	677.7	678.0	678.3	678.5
150°	688.3	688.7	689.0	689.4	689.8	690.1	690.4	690.6	690.9	691.2	691.5
152.5°	700.7	700.9	701.0	701.3	701.5	701.7	701.8	702.0	702.1	702.3	702.7
155°	718.2	718.0	717.7	717.5	717.2	717.2	717.3	717.4	717.5	717.7	718.3
157.5°	731.8	731.8	731.7	731.7	731.7	731.6	731.5	731.4	731.2	731.1	732.0
160°	740.1	740.0	739.9	739.7	739.6	739.5	739.3	739.2	739.1	739.0	739.7
162.5°	748.0	747.6	747.3	747.0	746.6	746.4	746.3	746.2	746.0	745.9	746.8
165°	757.4	757.0	756.7	756.3	755.9	755.6	755.5	755.4	755.3	755.1	756.2
167.5°	764.8	764.3	763.8	763.3	762.8	762.4	762.4	762.4	762.4	762.4	763.6
170°	768.9	768.4	767.9	767.4	766.9	766.6	766.6	766.6	766.6	766.6	767.7
172.5°	771.7	771.1	770.4	769.8	769.2	769.0	769.1	769.2	769.3	769.4	770.4
175°	775.3	774.7	774.0	773.4	772.7	772.4	772.5	772.7	772.8	773.0	773.9
177.5°	776.2	775.7	775.2	774.7	774.2	774.0	774.1	774.2	774.3	774.4	775.2
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	896.3	897.6	899.0	899.6	899.5	899.3	899.2	899.1
5°	891.5	893.2	894.9	895.6	895.2	894.9	894.6	894.2
7.5°	882.0	883.5	885.1	885.8	885.6	885.3	885.1	884.9
10°	873.3	874.9	876.5	877.1	876.8	876.4	876.1	875.7
12.5°	863.8	865.1	866.2	866.6	866.4	866.2	866.0	865.8
15°	846.8	848.1	849.5	849.6	848.6	847.6	846.6	845.6
17.5°	825.1	826.0	827.0	827.2	826.9	826.5	826.1	825.7
20°	809.0	809.7	810.3	810.4	809.9	809.4	808.9	808.4
22.5°	792.0	792.5	793.1	793.0	792.4	791.7	791.1	790.4
25°	763.9	764.1	764.2	764.1	763.6	763.1	762.4	761.9
27.5°	734.0	734.1	734.2	734.0	733.3	732.7	732.0	731.3
30°	713.3	713.3	713.3	712.7	711.4	710.2	709.0	707.8
32.5°	691.6	690.5	689.5	688.7	688.1	687.5	686.8	686.2
35°	656.2	655.2	654.2	653.3	652.4	651.6	650.7	649.8
37.5°	619.8	618.5	617.3	616.4	615.9	615.3	614.8	614.2
40°	596.0	594.6	593.3	592.2	591.5	590.9	590.2	589.5
42.5°	571.3	569.9	568.5	567.4	566.7	566.1	565.4	564.7
45°	534.3	532.2	530.2	528.7	527.9	526.9	526.1	525.2
47.5°	495.3	493.3	491.3	489.9	489.2	488.4	487.7	486.9
50°	469.7	467.8	465.9	464.4	463.3	462.3	461.3	460.3
52.5°	443.6	442.0	440.4	439.0	438.0	437.0	436.0	434.9
55°	403.8	402.0	400.1	398.7	397.9	397.0	396.2	395.3
57.5°	364.9	363.1	361.5	360.1	359.1	358.2	357.2	356.2
60°	337.3	335.8	334.2	333.0	332.1	331.2	330.4	329.5
62.5°	310.6	309.1	307.6	306.5	305.9	305.4	304.8	304.2
65°	271.0	269.7	268.3	267.4	266.9	266.4	265.9	265.3
67.5°	231.9	230.7	229.4	228.4	227.7	227.0	226.3	225.6
70°	206.4	205.3	204.1	203.0	202.2	201.3	200.5	199.5
72.5°	180.8	179.7	178.6	177.8	177.4	176.9	176.5	176.0
75°	143.7	142.9	142.0	141.3	140.8	140.3	139.8	139.3
77.5°	109.2	108.6	108.0	107.7	107.7	107.7	107.7	107.7
80°	87.1	86.8	86.7	86.6	86.6	86.6	86.6	86.6
82.5°	67.0	66.7	66.3	66.1	66.0	65.8	65.7	65.6
85°	38.0	37.7	37.3	37.2	37.2	37.2	37.2	37.2
87.5°	16.4	16.3	16.3	16.3	16.3	16.4	16.4	16.5
90°	14.8	15.3	15.9	16.3	16.6	16.8	17.1	17.3
92.5°	16.4	17.2	18.0	18.5	18.7	18.8	19.0	19.1
95°	19.7	20.5	21.4	21.9	21.9	21.9	21.9	21.9
97.5°	20.6	21.6	22.6	23.2	23.3	23.4	23.6	23.7
100°	21.0	22.1	23.1	23.6	23.8	23.9	24.0	24.2
102.5°	31.5	28.4	25.2	23.7	23.9	24.2	24.4	24.6
105°	80.8	58.2	35.5	24.3	24.5	24.8	25.0	25.3
107.5°	197.9	181.4	164.7	147.9	130.8	113.7	96.6	79.6
110°	251.4	247.1	242.9	231.6	213.3	195.0	176.7	158.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	288.9	289.0	289.1	287.2	283.4	279.4	275.6	271.8
115°	333.2	334.5	335.8	336.6	337.1	337.7	338.2	338.7
117.5°	373.2	374.3	375.3	375.9	376.0	376.1	376.2	376.3
120°	399.5	400.5	401.5	402.0	402.0	402.0	402.0	402.0
122.5°	425.2	425.9	426.6	427.0	427.1	427.2	427.3	427.4
125°	461.3	461.5	461.8	462.1	462.3	462.6	462.8	463.1
127.5°	497.6	498.0	498.4	498.5	498.2	498.0	497.7	497.5
130°	519.4	519.9	520.4	520.6	520.3	520.1	519.8	519.6
132.5°	540.2	540.7	541.2	541.3	540.9	540.5	540.2	539.8
135°	571.6	572.0	572.3	572.3	572.0	571.6	571.2	570.8
137.5°	599.6	600.2	600.8	601.0	600.7	600.5	600.2	600.0
140°	617.3	617.8	618.3	618.4	618.2	617.9	617.7	617.4
142.5°	634.2	634.6	635.0	635.0	634.7	634.3	633.9	633.6
145°	657.7	657.9	658.2	658.3	658.3	658.3	658.3	658.3
147.5°	678.8	679.0	679.3	679.1	678.5	677.9	677.4	676.8
150°	691.7	692.0	692.2	692.2	691.8	691.4	690.9	690.6
152.5°	703.2	703.6	704.1	704.0	703.5	702.9	702.3	701.7
155°	718.9	719.6	720.2	720.1	719.4	718.6	717.9	717.1
157.5°	732.7	733.5	734.3	734.1	733.1	732.2	731.1	730.1
160°	740.5	741.2	742.0	741.9	741.1	740.2	739.3	738.4
162.5°	747.6	748.5	749.4	749.4	748.6	747.8	747.0	746.3
165°	757.2	758.2	759.2	759.3	758.4	757.5	756.6	755.7
167.5°	764.6	765.6	766.6	766.6	765.6	764.6	763.6	762.4
170°	768.7	769.7	770.7	770.7	769.7	768.7	767.7	766.6
172.5°	771.4	772.4	773.5	773.5	772.3	771.2	770.0	768.9
175°	774.8	775.7	776.6	776.5	775.5	774.5	773.5	772.3
177.5°	776.0	776.8	777.6	777.5	776.5	775.5	774.5	773.5
180°	775.3	775.3	775.3	775.3	775.3	775.3	775.3	775.3

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