

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: P332273-927

Luminaire Tested: **S123RDIP-S560D365U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332273-927
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: S123RDIP-S560D365U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2840.4 lumens
Efficiency: N/A
Efficacy: 103.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

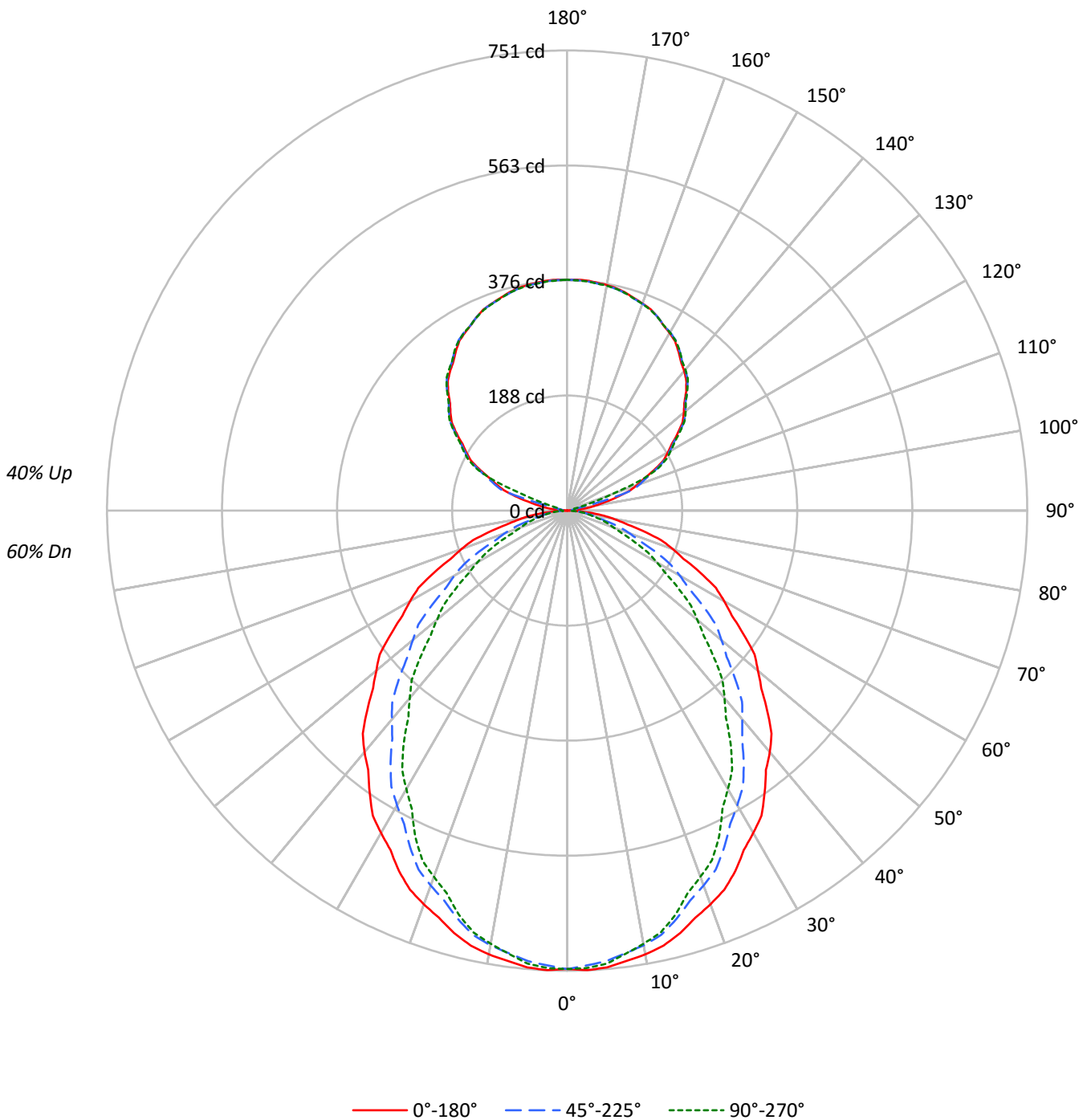
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	60				
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56	51				
2	92	84	78	73	85	79	74	69	69	65	62	60	57	54	51	49	47	43				
3	84	74	67	61	78	70	64	58	61	56	52	53	50	46	46	43	41	37				
4	77	66	58	52	72	62	55	50	55	49	45	48	44	40	41	38	35	32				
5	71	59	51	45	66	56	48	43	49	43	39	43	39	35	37	34	31	28				
6	65	53	45	39	61	50	43	38	44	39	34	39	34	31	34	30	28	25				
7	61	48	40	35	56	46	38	33	40	35	30	36	31	27	31	27	25	22				
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	22	20				
9	53	40	33	28	49	38	31	27	34	28	24	30	26	22	27	23	20	18				
10	49	37	30	25	46	35	28	24	31	26	22	28	23	20	25	21	18	16				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8054	8054	8054
5°	8084	7973	8018
10°	8039	7873	7847
15°	7952	7689	7608
20°	7834	7458	7285
25°	7712	7201	6969
30°	7549	6901	6524
35°	7384	6603	6116
40°	7231	6250	5611
45°	7030	5903	5154
50°	6807	5508	4644
55°	6583	5056	4168
60°	6374	4573	3645
65°	6105	4050	3123
70°	5766	3402	2521
75°	5273	2674	2371
80°	4705	2374	2182
85°	3977	2100	1951



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.3	2.5
10°-20°	195.5	6.9
20°-30°	281.5	9.9
30°-40°	317.1	11.2
40°-50°	303.3	10.7
50°-60°	248.4	8.7
60°-70°	167.6	5.9
70°-80°	84.3	3.0
80°-90°	23.4	0.8
90°-100°	13.7	0.5
100°-110°	65.3	2.3
110°-120°	156.8	5.5
120°-130°	199.7	7.0
130°-140°	213.4	7.5
140°-150°	199.5	7.0
150°-160°	160.9	5.7
160°-170°	103.9	3.7
170°-180°	35.8	1.3
0°-30°	547.2	19.3
0°-40°	864.3	30.4
0°-60°	1416.1	49.9
0°-90°	1691.3	59.5
90°-120°	235.8	8.3
90°-150°	848.4	29.9
90°-180°	1149.0	40.5
0°-180°	2840.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	748	745	738	743	742	71
15°	714	706	690	687	683	201
25°	649	633	606	594	587	298
35°	562	539	502	477	465	352
45°	462	433	388	354	339	356
55°	351	320	269	236	222	314
65°	240	206	159	130	123	237
75°	127	97	64	58	57	135
85°	32	19	17	16	16	36
90°	0	3	7	8	8	2
95°	17	6	9	11	11	21
105°	83	85	61	15	12	88
115°	156	158	161	163	165	154
125°	221	223	224	224	225	197
135°	275	276	277	278	277	211
145°	317	319	319	320	320	198
155°	349	349	349	350	348	161
165°	368	367	367	369	367	104
175°	377	376	376	377	375	36
180°	377	377	377	377	377	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	750.7	750.2	749.8	749.3	748.9	748.1	746.8	745.4	744.2	742.9	744.1
5°	748.2	747.6	746.9	746.2	745.5	744.4	742.8	741.2	739.5	737.9	739.1
7.5°	741.3	740.6	739.8	739.1	738.4	737.0	734.9	732.8	730.6	728.6	729.2
10°	735.5	734.5	733.6	732.6	731.7	730.0	727.6	725.2	722.7	720.3	720.4
12.5°	727.2	726.2	725.1	724.1	723.0	721.0	718.0	715.1	712.1	709.2	709.1
15°	713.6	712.2	710.7	709.2	707.7	705.0	701.3	697.5	693.7	690.0	689.3
17.5°	696.5	694.8	693.1	691.3	689.6	686.3	681.5	676.8	671.9	667.2	665.7
20°	683.9	681.8	679.6	677.4	675.3	671.6	666.5	661.4	656.2	651.1	649.4
22.5°	669.8	667.3	664.9	662.3	659.9	655.9	650.5	645.0	639.6	634.1	631.9
25°	649.3	645.9	642.5	639.2	635.8	631.1	624.8	618.6	612.4	606.3	603.4
27.5°	624.4	620.7	617.0	613.2	609.5	604.2	597.3	590.4	583.5	576.6	572.7
30°	607.4	603.4	599.4	595.3	591.3	585.4	577.9	570.4	562.8	555.2	550.6
32.5°	590.4	585.9	581.3	576.7	572.1	565.9	557.9	549.9	541.9	533.9	528.9
35°	561.9	557.1	552.2	547.4	542.5	535.9	527.5	519.2	510.8	502.5	496.6
37.5°	533.1	527.7	522.3	516.8	511.4	504.3	495.4	486.5	477.5	468.6	462.0
40°	514.6	508.7	502.7	496.8	490.8	483.1	473.6	464.0	454.4	444.8	437.8
42.5°	493.7	487.7	481.9	475.9	470.0	462.1	452.2	442.3	432.4	422.5	414.8
45°	461.8	455.7	449.6	443.6	437.5	429.3	418.9	408.5	398.2	387.8	380.1
47.5°	429.8	423.2	416.5	409.9	403.2	394.7	384.3	373.9	363.5	353.2	344.8
50°	406.5	400.2	393.9	387.5	381.2	372.6	361.6	350.8	339.8	328.9	320.5
52.5°	385.7	378.8	371.9	365.0	358.2	349.4	338.5	327.7	316.9	306.1	297.4
55°	350.8	344.1	337.5	330.9	324.3	315.3	303.8	292.4	280.9	269.4	261.6
57.5°	318.5	311.2	304.0	296.8	289.6	280.3	268.8	257.3	245.7	234.2	226.9
60°	296.1	288.8	281.3	273.9	266.5	257.1	246.0	234.8	223.6	212.4	205.1
62.5°	273.8	266.4	259.0	251.5	244.2	234.8	223.6	212.5	201.2	190.0	183.2
65°	239.7	232.3	224.9	217.5	210.0	201.1	190.5	180.1	169.5	159.0	152.4
67.5°	205.6	198.1	190.6	183.1	175.6	166.8	156.7	146.6	136.6	126.4	121.5
70°	183.2	175.9	168.7	161.4	154.2	145.8	136.3	126.9	117.5	108.1	103.3
72.5°	160.9	153.8	146.6	139.4	132.2	124.4	115.8	107.2	98.6	90.1	86.2
75°	126.8	120.3	113.9	107.4	100.9	94.0	86.6	79.1	71.8	64.3	63.0
77.5°	95.8	89.9	84.1	78.2	72.3	67.0	62.3	57.5	52.7	47.9	47.2
80°	75.9	70.3	64.8	59.3	53.7	49.6	46.7	43.9	41.0	38.3	37.8
82.5°	57.0	52.1	47.4	42.6	37.8	34.8	33.4	32.2	30.8	29.5	29.1
85°	32.2	29.2	26.2	23.3	20.3	18.6	18.2	17.8	17.4	17.0	16.7
87.5°	11.7	10.6	9.6	8.6	7.4	7.0	7.2	7.4	7.5	7.7	7.6
90°	0.3	0.9	1.5	2.1	2.8	3.5	4.3	5.1	5.9	6.7	7.0
92.5°	5.2	5.1	4.8	4.7	4.5	4.8	5.3	5.9	6.6	7.1	7.5
95°	17.1	14.5	12.0	9.4	6.9	5.9	6.7	7.3	8.0	8.7	9.1
97.5°	34.3	33.2	32.0	30.9	29.7	26.9	22.4	18.0	13.5	9.0	9.5
100°	47.3	48.6	49.8	51.0	52.3	48.1	38.3	28.7	18.9	9.3	9.7
102.5°	62.1	63.0	63.8	64.8	65.7	60.8	50.2	39.6	29.0	18.5	16.9
105°	83.4	84.1	84.8	85.5	86.2	83.7	78.1	72.5	66.9	61.3	50.3
107.5°	105.9	106.5	107.0	107.6	108.1	108.8	109.7	110.6	111.5	112.3	104.3
110°	121.0	121.4	121.9	122.4	122.9	123.5	124.2	124.8	125.6	126.3	124.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	135.2	135.7	136.2	136.6	137.0	137.6	138.3	139.0	139.7	140.4	140.4
115°	156.5	156.9	157.2	157.6	158.0	158.4	159.0	159.5	160.1	160.7	161.3
117.5°	177.1	177.5	177.9	178.4	178.9	179.3	179.5	179.8	180.1	180.4	180.9
120°	189.8	190.4	190.9	191.5	192.0	192.4	192.6	192.8	193.0	193.1	193.7
122.5°	202.8	203.3	203.7	204.1	204.6	204.9	205.2	205.4	205.7	205.9	206.3
125°	220.6	221.1	221.6	222.0	222.6	222.9	223.2	223.5	223.7	223.9	224.1
127.5°	237.8	238.4	238.8	239.3	239.8	240.2	240.5	240.8	241.1	241.4	241.6
130°	248.6	249.1	249.5	250.1	250.6	251.0	251.2	251.4	251.7	251.9	252.2
132.5°	258.9	259.4	259.9	260.4	260.9	261.2	261.4	261.7	261.8	262.1	262.3
135°	274.6	275.0	275.4	275.8	276.1	276.4	276.6	276.9	277.2	277.4	277.6
137.5°	288.0	288.5	289.0	289.5	289.9	290.3	290.4	290.5	290.7	290.8	291.1
140°	297.0	297.4	297.8	298.1	298.5	298.8	299.0	299.1	299.4	299.5	299.8
142.5°	305.3	305.7	306.0	306.4	306.8	307.0	307.3	307.4	307.6	307.8	308.0
145°	316.9	317.3	317.7	318.2	318.6	318.9	319.0	319.2	319.2	319.4	319.6
147.5°	327.8	328.1	328.4	328.7	328.9	329.2	329.3	329.4	329.5	329.6	329.8
150°	334.5	334.7	334.9	335.1	335.3	335.4	335.6	335.6	335.8	335.9	336.0
152.5°	340.6	340.6	340.7	340.8	340.9	341.0	341.0	341.1	341.2	341.3	341.5
155°	349.1	349.0	348.8	348.7	348.6	348.6	348.6	348.6	348.7	348.8	349.1
157.5°	355.7	355.7	355.7	355.6	355.6	355.6	355.5	355.5	355.4	355.4	355.7
160°	359.7	359.7	359.6	359.5	359.5	359.4	359.3	359.3	359.3	359.2	359.5
162.5°	363.5	363.4	363.2	363.1	362.9	362.7	362.7	362.7	362.6	362.5	362.9
165°	368.1	367.9	367.7	367.6	367.3	367.3	367.2	367.1	367.0	367.0	367.5
167.5°	371.7	371.5	371.2	371.0	370.7	370.6	370.6	370.6	370.6	370.6	371.1
170°	373.7	373.4	373.2	373.0	372.7	372.6	372.6	372.6	372.6	372.6	373.1
172.5°	375.0	374.8	374.5	374.1	373.8	373.8	373.8	373.8	373.9	373.9	374.5
175°	376.8	376.4	376.1	375.9	375.6	375.4	375.5	375.6	375.6	375.7	376.1
177.5°	377.2	377.0	376.8	376.5	376.2	376.1	376.2	376.2	376.3	376.4	376.8
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	748.2	748.2	748.2	748.2	748.2	748.2	748.2	748.2
2.5°	745.3	746.5	747.7	748.1	747.9	747.7	747.5	747.3
5°	740.3	741.6	742.8	743.2	743.0	742.7	742.4	742.1
7.5°	729.9	730.6	731.3	731.3	730.9	730.5	730.0	729.5
10°	720.6	720.7	720.8	720.6	719.9	719.2	718.6	717.9
12.5°	709.0	708.9	708.8	708.4	707.6	706.8	706.1	705.3
15°	688.6	687.9	687.3	686.4	685.5	684.6	683.7	682.7
17.5°	664.3	662.9	661.4	660.0	658.6	657.2	655.8	654.4
20°	647.6	645.9	644.1	642.5	640.8	639.2	637.5	636.0
22.5°	629.8	627.6	625.4	623.5	622.0	620.5	619.0	617.5
25°	600.6	597.7	594.9	592.7	591.3	589.8	588.3	586.8
27.5°	568.7	564.8	560.9	557.8	555.5	553.3	551.0	548.7
30°	546.1	541.5	536.9	533.5	531.4	529.3	527.0	524.9
32.5°	523.9	518.8	513.8	510.2	507.9	505.6	503.4	501.1
35°	490.8	485.1	479.3	475.2	472.7	470.3	467.9	465.4
37.5°	455.4	448.9	442.3	437.5	434.5	431.5	428.5	425.5
40°	430.8	423.7	416.8	411.7	408.6	405.5	402.4	399.3
42.5°	407.2	399.5	391.8	386.6	383.8	381.0	378.3	375.5
45°	372.4	364.7	357.0	351.6	348.3	345.1	341.8	338.6
47.5°	336.4	328.1	319.7	314.1	311.2	308.3	305.5	302.5
50°	312.2	303.8	295.5	289.7	286.6	283.5	280.4	277.3
52.5°	288.8	280.0	271.3	265.6	262.8	260.1	257.3	254.5
55°	253.8	246.0	238.1	232.9	230.2	227.5	224.8	222.1
57.5°	219.4	212.1	204.7	199.9	197.6	195.3	193.0	190.7
60°	197.8	190.5	183.2	178.5	176.2	173.9	171.6	169.3
62.5°	176.3	169.5	162.6	158.0	155.7	153.2	150.8	148.5
65°	145.8	139.2	132.5	128.5	127.1	125.6	124.1	122.6
67.5°	116.6	111.6	106.7	103.5	101.9	100.3	98.7	97.1
70°	98.5	93.9	89.1	86.0	84.5	83.1	81.6	80.1
72.5°	82.3	78.5	74.6	72.4	71.8	71.1	70.5	69.9
75°	61.6	60.3	58.9	58.1	57.8	57.6	57.3	57.0
77.5°	46.5	45.8	45.0	44.5	44.3	44.0	43.7	43.4
80°	37.4	37.0	36.6	36.3	36.0	35.7	35.5	35.2
82.5°	28.7	28.3	27.9	27.6	27.6	27.6	27.5	27.4
85°	16.5	16.2	15.9	15.8	15.8	15.8	15.8	15.8
87.5°	7.5	7.4	7.4	7.4	7.3	7.2	7.1	7.1
90°	7.2	7.4	7.7	7.9	8.0	8.2	8.2	8.4
92.5°	8.0	8.4	8.8	9.0	9.0	9.1	9.2	9.3
95°	9.6	10.0	10.5	10.6	10.6	10.6	10.6	10.6
97.5°	10.0	10.5	11.0	11.2	11.3	11.4	11.5	11.6
100°	10.2	10.7	11.2	11.5	11.6	11.6	11.7	11.7
102.5°	15.4	13.8	12.3	11.6	11.6	11.7	11.9	12.0
105°	39.3	28.3	17.3	11.8	12.0	12.0	12.2	12.3
107.5°	96.3	88.2	80.1	71.9	63.6	55.3	47.0	38.7
110°	122.2	120.1	118.0	112.6	103.7	94.7	85.9	77.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	140.5	140.5	140.5	139.6	137.7	135.9	134.0	132.1
115°	161.9	162.6	163.2	163.6	163.8	164.1	164.4	164.6
117.5°	181.4	181.9	182.4	182.7	182.7	182.8	182.8	182.8
120°	194.2	194.6	195.1	195.4	195.4	195.4	195.4	195.4
122.5°	206.6	207.0	207.3	207.5	207.6	207.6	207.6	207.7
125°	224.2	224.3	224.4	224.6	224.7	224.8	225.0	225.1
127.5°	241.8	242.0	242.2	242.2	242.1	242.0	241.9	241.8
130°	252.5	252.7	252.9	253.0	252.9	252.8	252.6	252.5
132.5°	262.5	262.8	263.0	263.1	262.8	262.7	262.5	262.4
135°	277.8	278.0	278.1	278.1	278.0	277.8	277.6	277.4
137.5°	291.4	291.7	292.0	292.1	291.9	291.8	291.7	291.6
140°	300.0	300.2	300.6	300.6	300.5	300.3	300.2	300.1
142.5°	308.2	308.4	308.6	308.6	308.5	308.2	308.1	307.9
145°	319.6	319.8	319.9	320.0	320.0	320.0	320.0	320.0
147.5°	329.9	330.0	330.2	330.1	329.8	329.5	329.2	328.9
150°	336.2	336.3	336.4	336.4	336.2	336.0	335.8	335.6
152.5°	341.7	342.0	342.2	342.1	341.9	341.6	341.3	341.0
155°	349.4	349.7	350.1	350.0	349.7	349.3	348.9	348.5
157.5°	356.1	356.5	356.9	356.8	356.3	355.8	355.3	354.8
160°	359.9	360.3	360.7	360.6	360.2	359.7	359.3	358.9
162.5°	363.4	363.8	364.2	364.2	363.8	363.5	363.1	362.7
165°	368.0	368.5	369.0	369.0	368.6	368.1	367.7	367.3
167.5°	371.5	372.1	372.6	372.6	372.1	371.5	371.1	370.6
170°	373.6	374.1	374.5	374.5	374.1	373.6	373.1	372.6
172.5°	374.9	375.4	375.9	375.9	375.3	374.8	374.2	373.7
175°	376.5	377.0	377.4	377.4	376.9	376.4	375.9	375.4
177.5°	377.2	377.6	378.0	377.9	377.4	376.9	376.4	375.9
180°	376.8	376.8	376.8	376.8	376.8	376.8	376.8	376.8

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