

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: P331916-927

Luminaire Tested: **S123DIP-S560D365U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331916-927  
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: S123DIP-S560D365U927-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2986.5 lumens  
Efficiency: N/A  
Efficacy: 108.6 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: Semi-Direct

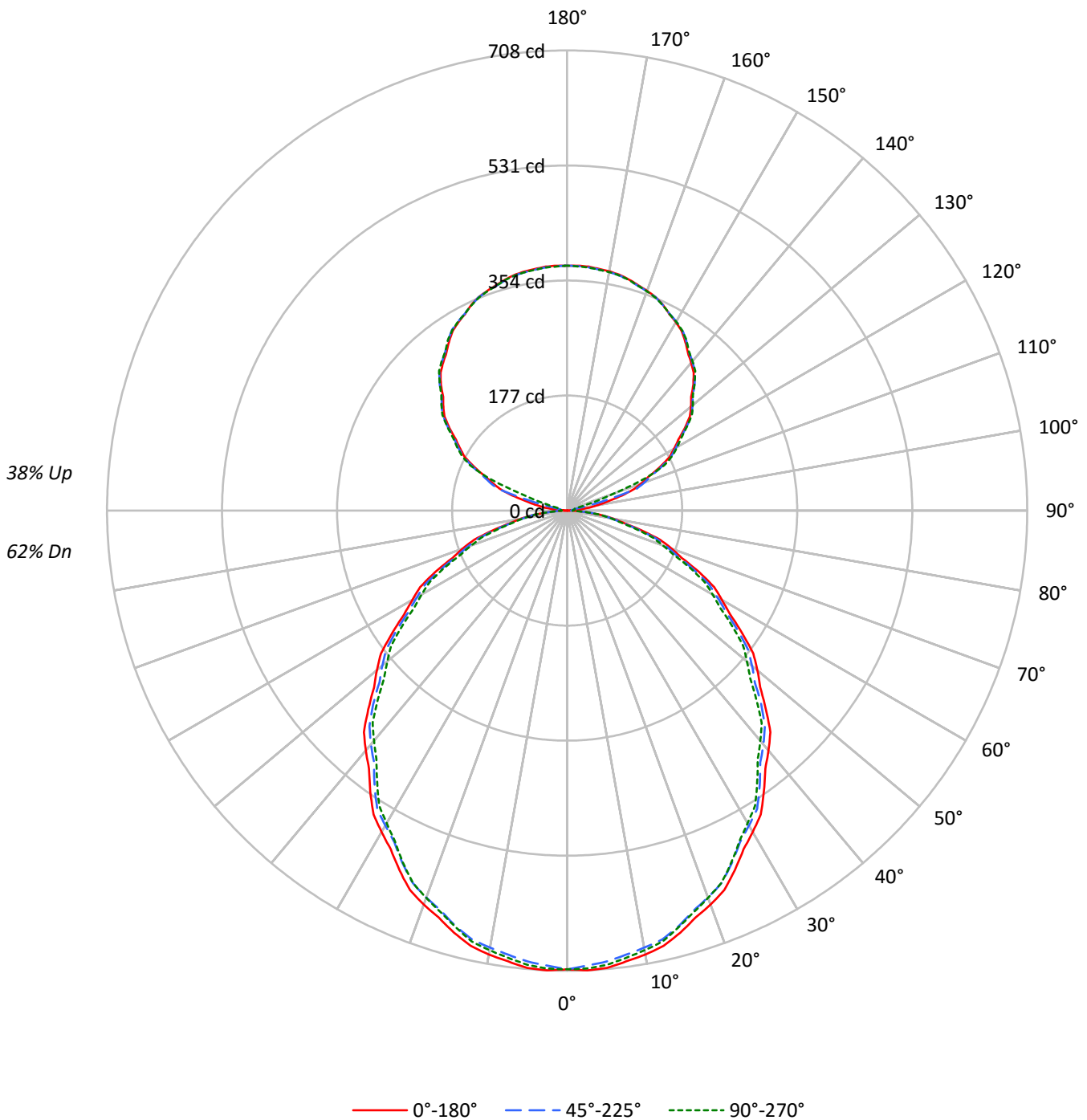
Input Watts (W): 27.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	100	96	92	88	94	90	86	83	79	76	74	68	66	65	59	57	56	52
2	91	84	77	72	85	79	73	68	69	65	61	60	57	54	52	49	47	43
3	83	74	66	60	78	69	62	57	61	56	51	53	49	46	46	43	40	37
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	35	31
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30	27
6	65	52	44	38	60	49	42	36	44	38	33	38	33	30	33	30	27	24
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	31	27	24	21
8	55	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19	17
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17	15

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	2.2
10°-20°	187.7	6.3
20°-30°	277.3	9.3
30°-40°	323.9	10.8
40°-50°	325.6	10.9
50°-60°	286.0	9.6
60°-70°	213.1	7.1
70°-80°	121.4	4.1
80°-90°	35.9	1.2
90°-100°	13.7	0.5
100°-110°	65.3	2.2
110°-120°	156.8	5.3
120°-130°	199.7	6.7
130°-140°	213.4	7.1
140°-150°	199.5	6.7
150°-160°	160.9	5.4
160°-170°	103.9	3.5
170°-180°	35.8	1.2
0°-30°	531.5	17.8
0°-40°	855.4	28.6
0°-60°	1467.0	49.1
0°-90°	1837.4	61.5
90°-120°	235.8	7.9
90°-150°	848.4	28.4
90°-180°	1149.0	38.5
0°-180°	2986.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	0	3	7	8	8	3
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°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.7	12.5	12.3	12.0	11.9	11.8	11.9	11.9	12.0	12.0	12.0
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°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	11.9	11.9	11.8	11.8	11.8	11.8	11.9	11.9
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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