

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: P332128-935

Luminaire Tested: **S123DIW-S560D755U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332128-935  
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: S123DIW-S560D755U935-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

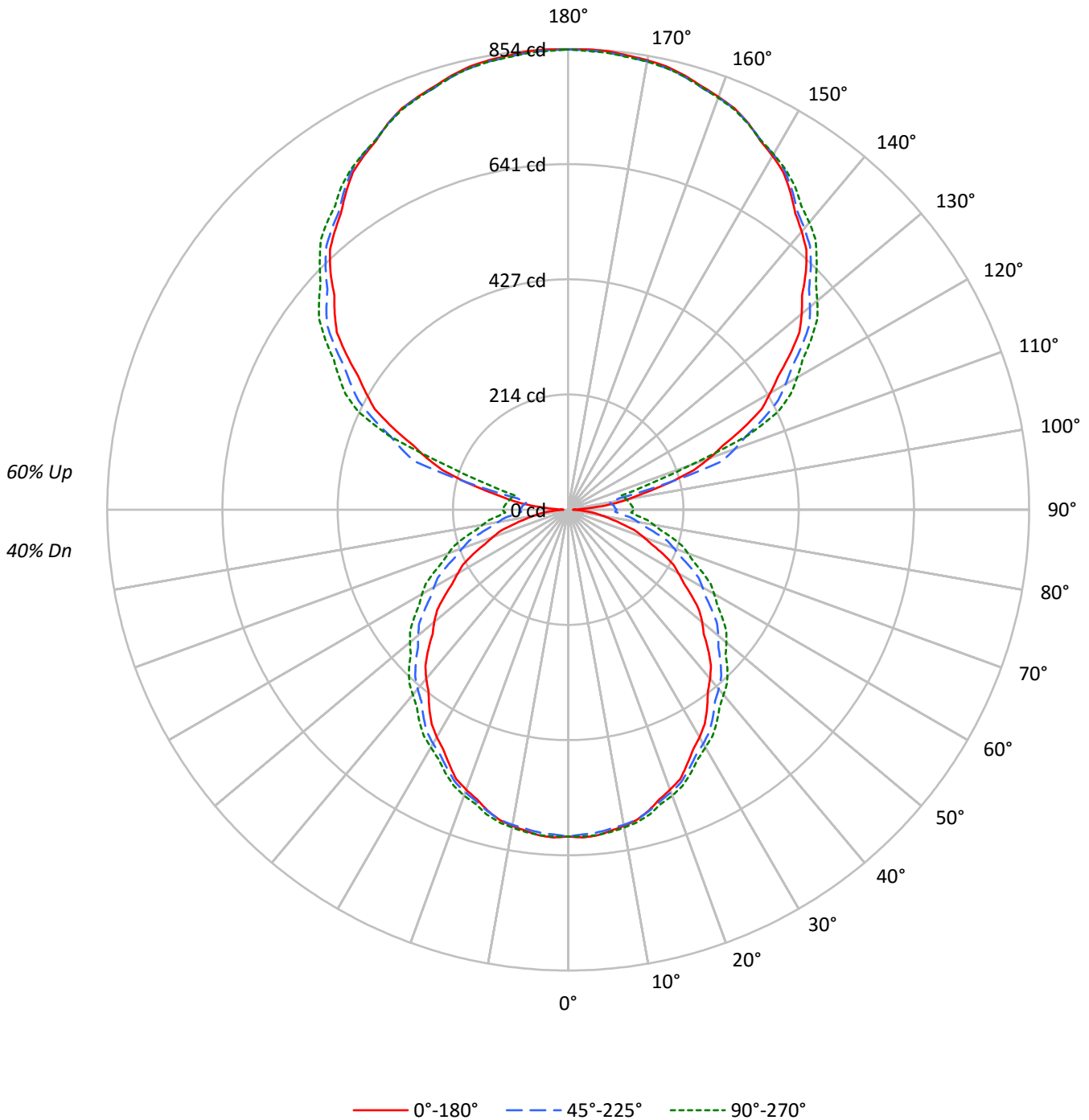
Lumens per Lamp: N/A  
Luminaire Lumens: 4637.6 lumens  
Efficiency: N/A  
Efficacy: 123.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	78	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	31	26
3	78	68	61	55	71	62	56	51	51	46	42	40	37	34	31	28	26	22
4	71	60	52	46	64	55	48	43	45	40	36	36	32	29	27	25	22	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	30	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

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

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.4	1.2
10°-20°	163.6	3.5
20°-30°	244.7	5.3
30°-40°	292.2	6.3
40°-50°	305.8	6.6
50°-60°	286.9	6.2
60°-70°	239.6	5.2
70°-80°	171.5	3.7
80°-90°	104.6	2.3
90°-100°	95.2	2.1
100°-110°	194.9	4.2
110°-120°	386.4	8.3
120°-130°	470.0	10.1
130°-140°	491.0	10.6
140°-150°	453.3	9.8
150°-160°	364.3	7.9
160°-170°	235.1	5.1
170°-180°	81.0	1.7
0°-30°	465.7	10.0
0°-40°	758.0	16.3
0°-60°	1350.7	29.1
0°-90°	1866.4	40.2
90°-120°	676.5	14.6
90°-150°	2090.8	45.1
90°-180°	2771.0	59.8
0°-180°	4637.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	9	48	90	114	122	8
95°	46	48	85	109	116	53
105°	194	214	188	100	102	206
115°	358	370	399	420	429	353
125°	501	507	528	543	549	448
135°	623	626	636	649	651	479
145°	718	722	723	729	732	449
155°	790	789	790	792	789	364
165°	833	831	831	835	831	235
175°	853	850	850	854	850	81
180°	853	853	853	853	853	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.7	25.2	32.8	40.4	48.0	55.7	63.5	71.4	79.2	87.0	92.1
90°	9.2	17.8	26.3	35.0	43.6	52.5	61.8	71.1	80.4	89.7	95.3
92.5°	19.8	25.9	32.0	38.1	44.2	51.6	60.4	69.1	77.7	86.5	92.3
95°	45.9	45.8	45.8	45.7	45.7	50.0	58.7	67.5	76.2	84.9	90.5
97.5°	84.1	86.7	89.3	91.9	94.5	94.0	90.7	87.5	84.2	80.9	86.4
100°	113.0	120.5	128.0	135.5	143.0	139.1	124.0	108.7	93.5	78.3	83.7
102.5°	145.9	152.2	158.4	164.7	170.9	165.4	148.0	130.6	113.3	95.9	96.5
105°	194.1	199.1	204.2	209.3	214.4	213.7	207.3	201.0	194.6	188.2	167.4
107.5°	244.3	248.5	252.7	256.9	261.1	267.3	275.3	283.2	291.2	299.2	284.8
110°	277.7	281.5	285.2	289.0	292.7	298.3	305.7	313.1	320.6	328.0	327.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	310.1	313.3	316.5	319.7	322.9	328.0	335.2	342.3	349.6	356.7	360.5
115°	357.5	360.1	362.7	365.2	367.9	372.5	379.0	385.6	392.1	398.6	403.6
117.5°	403.8	406.0	408.1	410.2	412.3	416.2	421.8	427.4	433.0	438.6	443.2
120°	432.2	434.2	436.2	438.2	440.2	443.8	449.1	454.3	459.6	464.9	469.3
122.5°	461.6	463.0	464.4	465.9	467.3	470.5	475.7	480.9	485.9	491.1	495.2
125°	501.3	502.4	503.5	504.6	505.8	508.7	513.5	518.3	523.1	528.0	531.3
127.5°	540.3	541.2	542.3	543.2	544.2	546.7	551.0	555.2	559.4	563.5	566.9
130°	564.6	565.6	566.5	567.6	568.5	570.8	574.3	577.7	581.3	584.7	588.1
132.5°	587.4	588.5	589.6	590.6	591.8	593.7	596.5	599.3	602.1	604.9	608.1
135°	622.8	623.5	624.2	624.9	625.7	627.1	629.2	631.5	633.6	635.8	638.9
137.5°	653.2	654.1	655.0	656.0	656.9	658.1	659.3	660.5	661.7	662.9	665.9
140°	672.9	673.7	674.6	675.5	676.2	677.1	678.0	678.8	679.7	680.5	683.3
142.5°	691.6	692.3	693.1	693.8	694.6	695.2	695.7	696.2	696.7	697.2	699.6
145°	717.9	718.7	719.5	720.4	721.3	721.8	722.0	722.4	722.6	722.9	724.4
147.5°	741.9	742.5	743.2	743.8	744.5	744.9	745.3	745.5	745.8	746.1	746.7
150°	757.2	757.5	757.9	758.4	758.8	759.1	759.5	759.7	760.0	760.3	760.6
152.5°	770.8	771.0	771.2	771.4	771.6	771.8	772.0	772.1	772.3	772.5	772.9
155°	790.1	789.8	789.5	789.2	788.9	788.8	789.0	789.2	789.3	789.5	790.1
157.5°	805.0	805.0	804.9	804.9	804.9	804.9	804.7	804.5	804.4	804.3	805.1
160°	814.2	814.0	813.9	813.7	813.6	813.5	813.3	813.1	813.0	812.9	813.7
162.5°	822.8	822.4	822.0	821.7	821.3	821.0	820.9	820.8	820.6	820.4	821.5
165°	833.2	832.8	832.3	831.9	831.5	831.2	831.0	830.9	830.8	830.6	831.7
167.5°	841.3	840.7	840.2	839.6	839.0	838.7	838.7	838.7	838.7	838.7	839.8
170°	845.8	845.2	844.7	844.1	843.6	843.3	843.3	843.3	843.3	843.3	844.4
172.5°	848.9	848.2	847.5	846.9	846.2	845.8	846.0	846.1	846.2	846.4	847.5
175°	852.8	852.0	851.4	850.7	850.0	849.7	849.8	850.0	850.2	850.2	851.3
177.5°	853.8	853.3	852.6	852.1	851.5	851.4	851.4	851.5	851.7	851.8	852.6
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	97.3	102.4	107.5	110.7	112.3	113.8	115.3	116.8
90°	100.8	106.3	111.9	115.5	117.4	119.1	120.8	122.5
92.5°	98.1	103.8	109.6	113.2	114.8	116.2	117.8	119.3
95°	96.0	101.5	107.0	110.6	112.0	113.5	114.9	116.4
97.5°	92.0	97.5	102.9	106.5	108.1	109.7	111.3	112.9
100°	89.0	94.5	99.8	103.3	104.9	106.5	108.1	109.7
102.5°	97.2	97.8	98.5	99.6	101.3	103.1	104.8	106.5
105°	146.5	125.8	105.0	95.3	96.9	98.6	100.1	101.8
107.5°	270.4	256.1	241.8	225.8	208.4	190.9	173.4	155.9
110°	326.3	325.5	324.6	314.7	295.8	276.8	257.9	238.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	364.3	368.1	371.9	372.2	369.3	366.4	363.3	360.4
115°	408.5	413.4	418.4	421.6	423.4	425.2	426.9	428.6
117.5°	447.8	452.5	457.1	460.0	461.2	462.5	463.7	465.0
120°	473.9	478.4	482.8	485.6	486.6	487.7	488.7	489.7
122.5°	499.2	503.3	507.3	509.9	511.0	512.1	513.3	514.4
125°	534.7	538.0	541.4	543.7	545.0	546.4	547.7	549.0
127.5°	570.2	573.6	577.0	579.0	579.7	580.4	581.2	581.9
130°	591.4	594.8	598.1	600.1	600.7	601.3	601.9	602.4
132.5°	611.4	614.6	617.9	619.7	620.4	621.0	621.6	622.2
135°	641.9	645.0	648.0	649.7	650.1	650.3	650.7	650.9
137.5°	668.9	671.9	674.9	676.6	677.0	677.5	678.0	678.4
140°	686.0	688.9	691.6	693.2	693.7	694.1	694.6	695.0
142.5°	702.1	704.5	706.9	708.3	708.6	708.9	709.3	709.6
145°	725.8	727.3	728.8	729.8	730.3	730.9	731.5	732.1
147.5°	747.3	748.0	748.6	748.9	748.7	748.6	748.6	748.4
150°	760.9	761.1	761.4	761.5	761.4	761.2	761.1	761.0
152.5°	773.4	774.0	774.5	774.5	773.9	773.3	772.7	772.1
155°	790.8	791.5	792.3	792.2	791.3	790.5	789.6	788.8
157.5°	806.0	806.8	807.6	807.5	806.4	805.3	804.3	803.1
160°	814.6	815.5	816.2	816.2	815.2	814.2	813.2	812.3
162.5°	822.4	823.4	824.3	824.3	823.5	822.6	821.7	820.9
165°	832.8	834.0	835.1	835.2	834.2	833.2	832.2	831.2
167.5°	840.9	842.1	843.3	843.3	842.1	840.9	839.8	838.7
170°	845.5	846.7	847.8	847.8	846.7	845.5	844.4	843.3
172.5°	848.6	849.7	850.8	850.8	849.5	848.3	847.1	845.8
175°	852.2	853.3	854.2	854.1	853.0	851.9	850.8	849.6
177.5°	853.6	854.5	855.4	855.2	854.1	853.0	851.9	850.8
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8

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