

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: P331527-840

Luminaire Tested: **S122DIW-S675D435U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331527-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S675D435U840-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4463.4 lumens  
Efficiency: N/A  
Efficacy: 118.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

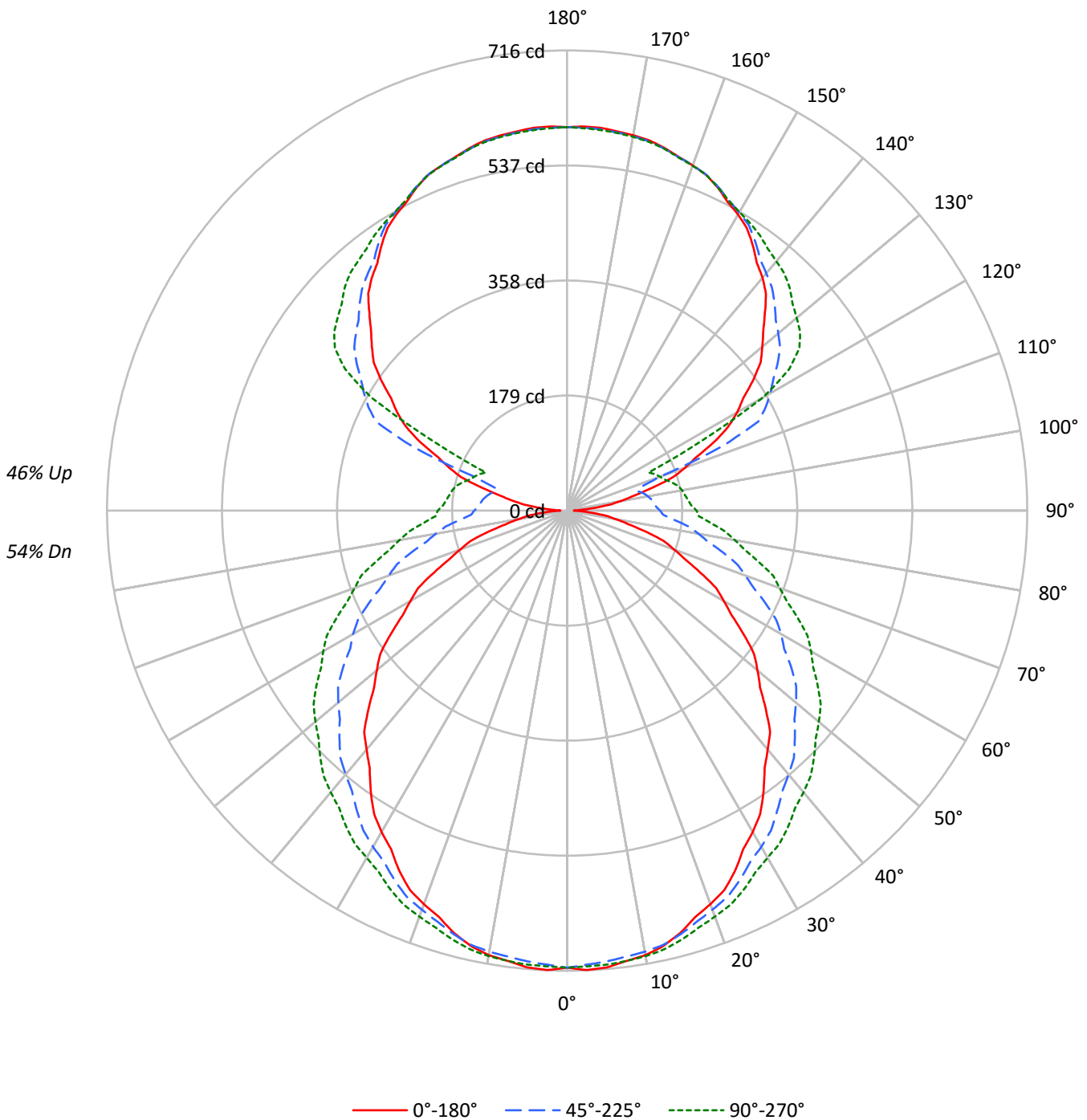
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54
1	97	92	87	83	90	85	81	78	73	70	67	61	59	57	50	49	47	42
2	88	79	73	67	81	74	68	62	63	58	54	53	49	46	43	41	39	34
3	80	69	61	55	73	64	57	51	55	49	45	46	42	38	38	35	32	28
4	73	61	52	46	67	57	49	43	48	42	38	41	36	32	34	30	27	24
5	67	54	45	39	61	50	43	37	43	37	32	36	32	28	30	26	23	20
6	61	48	40	34	56	45	37	32	39	33	28	33	28	24	27	23	20	18
7	57	44	35	29	52	41	33	28	35	29	24	30	25	21	25	21	18	15
8	52	40	31	26	48	37	30	24	32	26	22	27	22	19	23	19	16	14
9	49	36	28	23	45	34	27	22	29	23	19	25	20	17	21	17	14	12
10	46	33	26	21	42	31	24	19	27	21	17	23	18	15	19	16	13	11

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

	0°	45°	90°
0°	11485	11485	11485
5°	11541	11055	11013
10°	11469	10729	10608
15°	11310	10384	10181
20°	11112	10013	9772
25°	10913	9655	9399
30°	10635	9288	9023
35°	10355	8933	8760
40°	10057	8630	8496
45°	9777	8361	8270
50°	9476	8116	8048
55°	9160	7855	7822
60°	8770	7583	7583
65°	8367	7262	7299
70°	7917	6920	6990
75°	7339	6581	6708
80°	6436	6238	6424
85°	5566	5939	6199



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.4	1.5
10°-20°	193.3	4.3
20°-30°	292.9	6.6
30°-40°	356.7	8.0
40°-50°	383.8	8.6
50°-60°	372.7	8.4
60°-70°	325.4	7.3
70°-80°	250.5	5.6
80°-90°	169.6	3.8
90°-100°	135.7	3.0
100°-110°	157.6	3.5
110°-120°	250.9	5.6
120°-130°	353.2	7.9
130°-140°	355.5	8.0
140°-150°	320.5	7.2
150°-160°	255.9	5.7
160°-170°	164.9	3.7
170°-180°	56.8	1.3
0°-30°	553.6	12.4
0°-40°	910.3	20.4
0°-60°	1666.8	37.3
0°-90°	2412.4	54.0
90°-120°	544.2	12.2
90°-150°	1573.4	35.3
90°-180°	2051.0	46.0
0°-180°	4463.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	711	711	711	711	711	
5°	713	710	704	710	709	68
15°	680	682	682	691	691	192
25°	618	626	635	647	651	284
35°	533	551	570	592	600	333
45°	437	465	501	532	543	337
55°	335	373	426	462	476	299
65°	229	280	340	381	396	227
75°	127	185	250	293	308	134
85°	37	101	167	209	225	40
90°	11	76	145	186	201	8
95°	36	72	135	175	189	41
105°	136	173	115	154	169	146
115°	252	273	328	168	140	248
125°	353	361	400	430	441	315
135°	435	443	456	481	490	336
145°	504	504	511	520	523	315
155°	555	551	556	558	555	255
165°	584	582	583	586	583	165
175°	598	595	596	598	594	57
180°	596	596	596	596	596	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	715.5	714.9	714.4	713.8	713.3	712.4	711.0	709.7	708.5	707.2	708.1
5°	713.4	712.7	712.1	711.3	710.6	709.6	708.2	706.9	705.5	704.1	705.5
7.5°	707.0	706.5	706.1	705.6	705.2	704.4	703.4	702.3	701.3	700.2	701.9
10°	702.1	701.6	701.1	700.6	700.2	699.6	698.9	698.3	697.6	696.9	698.7
12.5°	693.8	693.9	694.0	694.1	694.2	694.0	693.5	693.0	692.5	692.0	693.8
15°	680.4	680.9	681.4	681.8	682.3	682.5	682.5	682.5	682.5	682.5	684.5
17.5°	663.1	664.1	665.0	666.0	666.9	667.8	668.5	669.2	669.9	670.8	672.9
20°	651.6	652.7	653.8	655.0	656.1	657.1	658.0	659.0	659.9	660.9	663.4
22.5°	639.1	640.5	641.9	643.2	644.5	645.8	647.1	648.3	649.6	651.0	653.5
25°	618.5	620.2	621.8	623.4	625.0	626.8	628.8	631.0	633.0	635.0	637.8
27.5°	593.8	596.4	599.1	601.7	604.3	606.8	609.3	611.7	614.1	616.5	620.0
30°	577.3	580.3	583.3	586.2	589.3	592.2	595.2	598.1	601.2	604.1	607.7
32.5°	559.2	562.5	565.8	569.2	572.6	576.0	579.6	583.0	586.5	590.1	594.3
35°	533.0	536.8	540.8	544.6	548.6	552.7	557.0	561.4	565.7	570.1	575.1
37.5°	504.5	509.1	513.5	518.0	522.5	527.6	533.2	538.9	544.4	550.1	555.7
40°	485.5	490.6	495.6	500.7	505.7	511.3	517.6	523.7	529.9	536.0	542.0
42.5°	467.5	472.4	477.5	482.5	487.6	493.6	500.8	507.9	514.9	522.1	528.6
45°	437.1	443.3	449.5	455.7	461.8	469.0	477.0	485.0	493.0	501.0	508.2
47.5°	407.2	413.9	420.7	427.4	434.1	442.2	451.6	461.0	470.4	479.8	487.3
50°	386.6	393.7	400.8	407.9	415.0	423.7	434.0	444.3	454.6	464.9	472.7
52.5°	366.8	374.3	381.7	389.2	396.7	405.9	416.7	427.6	438.4	449.3	457.3
55°	335.1	343.3	351.5	359.8	368.0	378.1	390.0	401.9	413.8	425.8	434.0
57.5°	303.7	313.1	322.3	331.6	340.9	351.6	363.8	375.9	388.1	400.2	409.1
60°	281.4	291.2	301.1	311.0	320.8	332.3	345.4	358.4	371.4	384.6	393.2
62.5°	261.7	271.9	282.1	292.3	302.6	314.2	327.2	340.2	353.4	366.4	375.7
65°	228.8	240.0	251.4	262.6	273.8	286.1	299.6	313.2	326.7	340.2	349.6
67.5°	198.7	210.5	222.3	234.0	245.7	258.4	272.3	286.1	299.9	313.8	323.3
70°	177.3	189.2	201.2	213.1	225.0	238.0	252.3	266.4	280.6	294.9	304.7
72.5°	157.5	169.8	182.1	194.4	206.6	219.9	234.4	248.7	263.2	277.5	287.2
75°	126.8	139.7	152.5	165.3	178.1	191.9	206.5	221.2	235.8	250.5	260.3
77.5°	97.1	110.6	124.0	137.3	150.8	165.0	179.9	194.8	209.6	224.5	234.4
80°	77.4	91.3	105.2	119.3	133.2	147.6	162.6	177.4	192.3	207.2	216.8
82.5°	60.8	74.6	88.4	102.2	116.0	130.4	145.5	160.6	175.6	190.8	200.4
85°	37.2	51.3	65.5	79.7	93.9	108.4	123.0	137.6	152.4	167.0	176.6
87.5°	20.3	34.1	48.1	61.9	75.7	90.1	104.9	119.8	134.5	149.4	158.8
90°	10.7	25.0	39.4	53.7	68.1	83.0	98.5	113.8	129.3	144.7	154.3
92.5°	18.2	30.5	42.7	55.0	67.3	80.7	95.2	109.7	124.2	138.7	147.9
95°	36.3	43.9	51.5	59.1	66.8	77.8	92.1	106.5	121.0	135.4	144.6
97.5°	62.9	63.5	64.2	64.8	65.5	73.2	88.0	102.7	117.4	132.2	141.1
100°	83.6	79.0	74.3	69.6	64.9	69.9	84.3	98.8	113.2	127.6	136.9
102.5°	105.5	110.6	115.5	120.5	125.4	127.3	126.1	124.9	123.8	122.6	131.9
105°	136.3	145.9	155.4	164.9	174.5	172.1	157.8	143.5	129.3	115.0	124.1
107.5°	172.7	180.4	187.9	195.6	203.2	197.0	177.0	157.0	137.0	117.0	123.7
110°	195.3	202.0	208.5	215.1	221.8	216.8	200.3	183.8	167.3	150.8	148.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	217.4	223.1	228.7	234.3	239.9	244.7	248.5	252.4	256.2	260.0	232.4
115°	252.3	256.5	260.6	264.8	268.9	277.3	290.0	302.8	315.5	328.2	290.6
117.5°	282.5	285.9	289.4	292.9	296.3	303.7	314.9	326.0	337.2	348.4	344.5
120°	305.3	307.6	309.9	312.4	314.7	321.2	332.1	343.1	354.0	364.9	372.4
122.5°	324.6	326.5	328.3	330.2	332.1	338.3	348.8	359.3	369.8	380.2	387.2
125°	352.9	354.3	355.5	356.7	358.0	363.1	372.3	381.4	390.6	399.8	406.7
127.5°	379.6	380.8	381.9	383.1	384.3	388.5	395.8	403.0	410.3	417.6	424.2
130°	396.6	397.9	399.2	400.5	401.8	405.4	411.2	417.1	422.9	428.9	435.4
132.5°	413.8	415.0	416.0	417.1	418.2	421.0	425.9	430.6	435.4	440.1	446.4
135°	435.3	436.8	438.3	439.9	441.4	443.7	446.9	450.0	453.2	456.4	462.1
137.5°	458.0	459.0	460.0	461.0	462.1	463.5	465.5	467.6	469.6	471.5	476.7
140°	472.8	473.3	473.9	474.4	474.9	475.9	477.5	479.0	480.5	482.0	486.6
142.5°	485.2	485.7	486.1	486.7	487.1	488.0	489.3	490.6	491.9	493.1	496.9
145°	503.7	503.6	503.5	503.4	503.3	504.1	505.7	507.4	509.0	510.6	512.7
147.5°	520.7	520.4	520.0	519.7	519.3	519.9	521.5	523.1	524.7	526.3	527.0
150°	531.8	531.1	530.4	529.8	529.1	529.5	531.1	532.6	534.1	535.6	536.2
152.5°	541.1	540.4	539.6	538.9	538.1	538.5	539.9	541.4	542.8	544.3	544.8
155°	554.6	553.8	552.9	552.1	551.2	551.4	552.5	553.6	554.8	555.9	556.5
157.5°	565.2	564.5	563.8	563.1	562.4	562.4	563.2	564.0	564.8	565.6	566.2
160°	571.5	570.9	570.4	569.8	569.2	569.2	569.8	570.4	570.9	571.5	572.1
162.5°	577.0	576.4	575.8	575.3	574.7	574.7	575.1	575.6	576.1	576.6	577.3
165°	584.4	583.9	583.3	582.7	582.1	582.0	582.3	582.6	582.9	583.1	583.8
167.5°	590.0	589.4	588.9	588.2	587.6	587.5	587.7	588.0	588.3	588.5	589.3
170°	593.1	592.5	591.9	591.4	590.8	590.6	590.8	591.0	591.2	591.4	592.0
172.5°	595.1	594.6	594.0	593.4	592.8	592.7	592.8	593.0	593.2	593.4	594.1
175°	597.8	597.1	596.4	595.8	595.1	594.9	595.1	595.3	595.4	595.6	596.3
177.5°	598.2	597.7	597.1	596.6	596.1	595.8	595.9	596.0	596.1	596.1	596.7
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	711.3	711.3	711.3	711.3	711.3	711.3	711.3	711.3
2.5°	709.0	709.9	710.8	711.1	710.7	710.4	710.0	709.7
5°	706.9	708.2	709.6	710.2	709.9	709.7	709.5	709.2
7.5°	703.5	705.2	706.8	707.5	707.3	707.0	706.8	706.6
10°	700.5	702.4	704.3	705.0	704.8	704.6	704.4	704.1
12.5°	695.6	697.4	699.3	700.0	699.8	699.6	699.4	699.1
15°	686.6	688.6	690.7	691.7	691.5	691.2	690.9	690.7
17.5°	675.0	677.2	679.3	680.4	680.4	680.4	680.4	680.4
20°	665.9	668.4	670.9	672.2	672.2	672.2	672.2	672.2
22.5°	656.0	658.5	661.0	662.5	662.8	663.2	663.6	663.9
25°	640.6	643.3	646.0	647.7	648.4	649.1	649.8	650.6
27.5°	623.5	626.9	630.5	632.4	632.9	633.4	633.9	634.4
30°	611.5	615.1	618.7	621.0	621.7	622.4	623.0	623.7
32.5°	598.5	602.8	606.9	609.7	611.0	612.2	613.4	614.6
35°	580.2	585.2	590.3	593.6	595.2	596.8	598.3	600.0
37.5°	561.3	566.8	572.5	576.1	577.8	579.5	581.2	582.9
40°	548.0	553.9	559.9	563.9	565.9	568.0	570.1	572.2
42.5°	535.0	541.6	548.1	552.4	554.4	556.5	558.6	560.6
45°	515.2	522.3	529.5	534.1	536.4	538.8	541.0	543.3
47.5°	494.6	502.1	509.5	514.4	516.9	519.5	522.0	524.5
50°	480.5	488.3	496.1	501.3	503.8	506.3	508.8	511.3
52.5°	465.2	473.2	481.2	486.6	489.2	491.9	494.6	497.4
55°	442.2	450.5	458.8	464.3	467.4	470.3	473.3	476.3
57.5°	418.0	426.9	435.8	441.7	444.7	447.8	450.8	453.8
60°	401.9	410.6	419.4	425.4	428.5	431.7	434.9	438.2
62.5°	384.9	394.2	403.4	409.6	412.5	415.6	418.6	421.6
65°	359.0	368.4	377.8	384.0	387.0	389.9	392.9	395.9
67.5°	332.8	342.2	351.7	358.1	361.1	364.3	367.4	370.5
70°	314.6	324.4	334.3	340.5	343.3	346.1	348.8	351.5
72.5°	296.9	306.5	316.2	322.7	326.0	329.3	332.5	335.9
75°	270.2	280.0	289.9	296.3	299.3	302.3	305.3	308.2
77.5°	244.2	254.0	263.8	270.2	273.5	276.7	279.8	283.1
80°	226.4	236.1	245.7	252.2	255.3	258.5	261.8	265.0
82.5°	210.0	219.5	229.2	235.5	238.5	241.6	244.6	247.6
85°	186.2	195.9	205.5	211.9	215.1	218.3	221.6	224.7
87.5°	168.2	177.6	187.1	193.3	196.3	199.2	202.3	205.2
90°	164.0	173.6	183.3	189.6	192.5	195.5	198.4	201.4
92.5°	157.1	166.3	175.6	181.7	184.5	187.3	190.3	193.1
95°	153.8	163.0	172.1	178.0	180.7	183.4	186.0	188.6
97.5°	150.0	158.9	167.6	173.5	176.3	179.2	182.0	184.8
100°	146.2	155.4	164.7	170.7	173.4	176.1	178.7	181.5
102.5°	141.2	150.5	159.8	165.8	168.6	171.4	174.2	176.9
105°	133.1	142.2	151.3	157.2	160.2	163.1	166.0	168.8
107.5°	130.3	136.9	143.6	148.3	151.3	154.1	157.0	160.0
110°	146.2	144.0	141.8	142.1	145.0	147.8	150.8	153.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	204.7	177.0	149.4	136.9	139.8	142.6	145.4	148.2
115°	253.1	215.6	178.0	157.0	152.7	148.2	143.9	139.6
117.5°	340.4	336.5	332.5	320.3	300.0	279.6	259.3	238.9
120°	380.0	387.6	395.1	393.6	383.2	372.8	362.3	351.9
122.5°	394.2	401.0	408.0	411.2	410.9	410.5	410.1	409.8
125°	413.5	420.3	427.2	431.8	434.1	436.5	438.9	441.2
127.5°	430.9	437.6	444.2	448.6	450.6	452.7	454.7	456.9
130°	441.9	448.5	455.0	459.2	460.9	462.7	464.4	466.2
132.5°	452.5	458.8	465.0	469.0	470.7	472.4	474.1	475.9
135°	467.9	473.6	479.5	483.1	484.7	486.5	488.1	489.7
137.5°	481.8	487.0	492.1	495.3	496.6	497.8	499.1	500.3
140°	491.1	495.6	500.2	502.9	503.7	504.6	505.5	506.4
142.5°	500.6	504.3	508.1	510.3	511.0	511.7	512.4	513.1
145°	514.7	516.7	518.8	520.2	520.8	521.5	522.2	522.8
147.5°	527.7	528.4	529.1	529.5	529.6	529.8	529.9	530.1
150°	536.8	537.3	538.0	538.1	537.6	537.0	536.5	536.1
152.5°	545.4	546.0	546.6	546.5	545.9	545.3	544.6	544.0
155°	557.1	557.6	558.3	558.2	557.3	556.6	555.8	555.1
157.5°	566.9	567.5	568.3	568.2	567.4	566.6	565.9	565.2
160°	572.6	573.2	573.8	573.7	573.1	572.4	571.7	571.1
162.5°	577.9	578.7	579.3	579.2	578.3	577.5	576.7	575.9
165°	584.5	585.1	585.8	585.8	585.1	584.5	583.8	583.1
167.5°	590.0	590.6	591.3	591.2	590.3	589.5	588.5	587.7
170°	592.7	593.4	594.0	593.9	593.1	592.2	591.4	590.5
172.5°	594.7	595.4	596.1	596.0	595.1	594.3	593.4	592.6
175°	597.0	597.6	598.3	598.2	597.2	596.3	595.3	594.4
177.5°	597.2	597.7	598.3	598.2	597.5	596.8	596.1	595.5
180°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5

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