

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: P331333-840

Luminaire Tested: **S122DIP-S675D330U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331333-840  
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: S122DIP-S675D330U840-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4037.3 lumens  
Efficiency: N/A  
Efficacy: 115.4 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

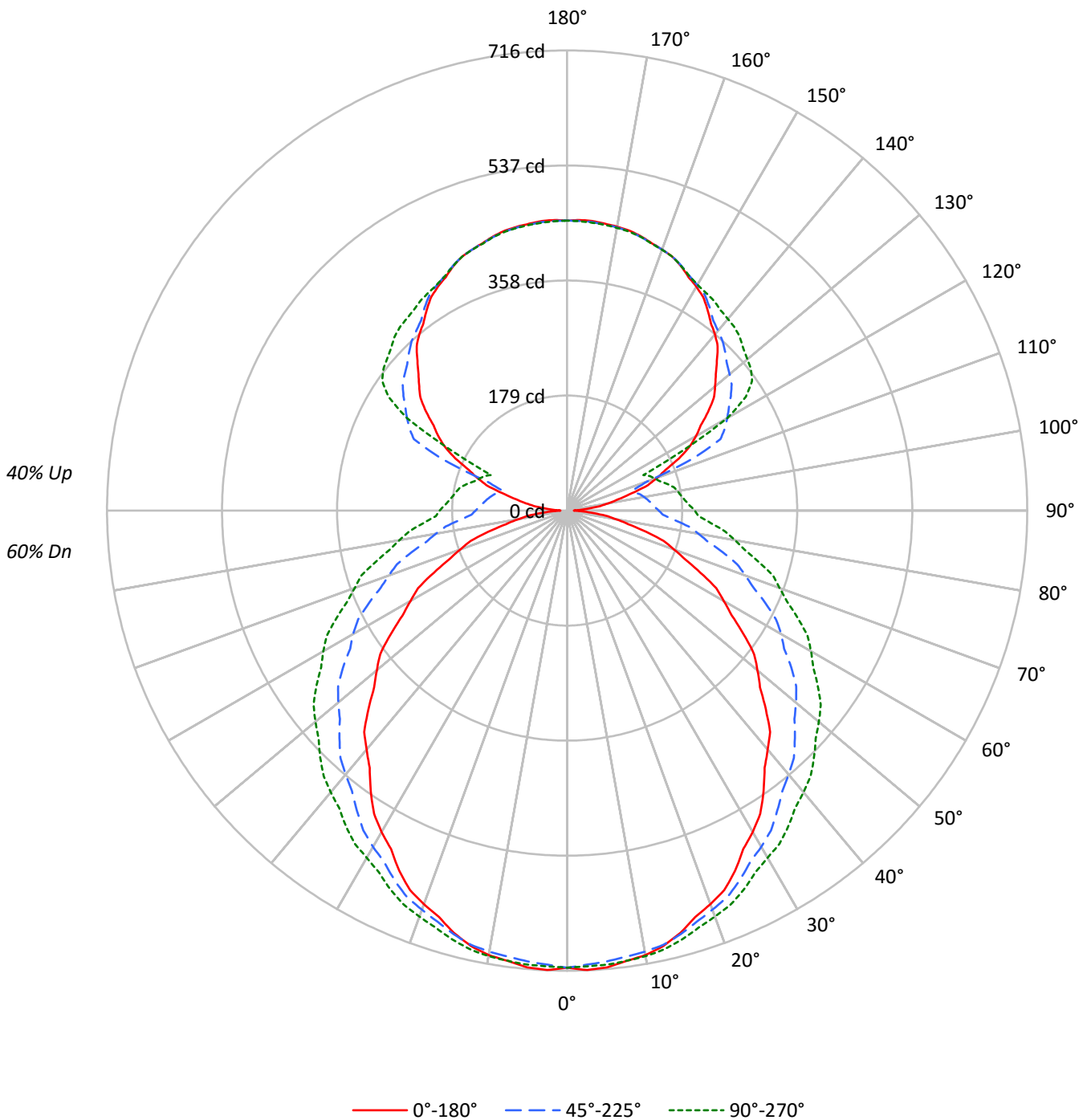
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331333-840

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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	109	109	109	109	102	102	102	102	89	89	89		76	76	76		65	65	65	60
1	98	93	88	84	91	87	83	79	75	72	69		65	62	60		55	53	51	47
2	89	80	73	67	82	75	69	63	65	60	56		56	52	49		47	44	42	38
3	80	70	62	55	75	65	58	52	57	51	46		49	44	40		41	38	35	31
4	73	62	53	46	68	58	50	44	50	44	39		43	38	34		36	33	30	26
5	67	55	46	39	62	51	43	37	45	38	33		38	33	29		33	29	25	22
6	62	49	40	34	57	46	38	32	40	34	29		35	29	26		30	25	22	19
7	57	44	36	30	53	41	34	28	36	30	25		31	26	22		27	23	20	17
8	53	40	32	26	49	38	30	25	33	27	22		29	24	20		25	21	17	15
9	49	36	29	23	46	34	27	22	30	24	20		26	21	18		23	19	16	14
10	46	33	26	21	43	32	25	20	28	22	18		24	20	16		21	17	14	12

**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	1.7
10°-20°	193.3	4.8
20°-30°	292.9	7.3
30°-40°	356.7	8.8
40°-50°	383.8	9.5
50°-60°	372.7	9.2
60°-70°	325.4	8.1
70°-80°	250.5	6.2
80°-90°	169.3	4.2
90°-100°	130.9	3.2
100°-110°	139.8	3.5
110°-120°	203.4	5.0
120°-130°	274.7	6.8
130°-140°	272.1	6.7
140°-150°	243.0	6.0
150°-160°	193.6	4.8
160°-170°	124.7	3.1
170°-180°	42.9	1.1
0°-30°	553.6	13.7
0°-40°	910.3	22.5
0°-60°	1666.8	41.3
0°-90°	2412.1	59.7
90°-120°	474.1	11.7
90°-150°	1264.0	31.3
90°-180°	1625.0	40.2
0°-180°	4037.3	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	74	143	184	198	8
95°	30	69	131	170	184	32
105°	104	140	109	147	161	112
115°	192	211	263	149	131	189
125°	268	274	311	340	351	239
135°	330	335	348	372	380	255
145°	381	381	386	394	398	238
155°	420	417	420	422	420	193
165°	442	440	441	443	441	125
175°	452	450	451	453	450	43
180°	451	451	451	451	451	



TEST NUMBER: P331333-840

CATALOG NUMBER: S122DIP-S675D330U840-4F0-1E-UDD-D

**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	47.9	61.7	75.5	89.8	104.6	119.4	134.1	149.0	158.3
90°	10.6	24.7	38.8	52.9	67.0	81.6	96.8	112.1	127.3	142.6	152.2
92.5°	16.1	28.4	40.7	53.0	65.2	78.7	93.0	107.4	121.8	136.2	145.4
95°	29.5	37.9	46.3	54.6	62.9	74.3	88.6	102.8	117.0	131.3	140.4
97.5°	49.4	52.2	55.0	57.9	60.7	69.3	83.6	98.0	112.4	126.7	135.5
100°	65.0	63.5	62.1	60.6	59.2	65.4	79.5	93.6	107.7	121.7	130.8
102.5°	81.4	87.1	92.7	98.4	104.0	107.9	110.0	112.2	114.3	116.4	125.5
105°	104.4	113.2	122.1	130.9	139.7	140.2	132.3	124.4	116.4	108.6	117.3
107.5°	131.8	138.9	145.9	153.1	160.2	157.4	145.1	132.8	120.5	108.1	115.0
110°	148.8	154.9	161.0	167.1	173.2	171.4	161.7	151.9	142.2	132.4	132.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.5	170.7	175.9	181.1	186.3	191.7	197.1	202.6	208.1	213.6	194.5
115°	191.9	195.6	199.3	203.1	206.9	214.8	226.9	239.0	251.2	263.3	236.6
117.5°	214.4	217.4	220.5	223.5	226.5	233.5	244.2	255.0	265.8	276.5	275.2
120°	231.7	233.7	235.7	237.6	239.6	245.9	256.4	266.8	277.3	287.8	295.1
122.5°	246.3	247.8	249.3	250.9	252.4	258.1	268.1	278.2	288.2	298.2	305.0
125°	267.5	268.4	269.4	270.3	271.2	276.1	284.8	293.6	302.3	310.9	317.7
127.5°	287.7	288.5	289.3	290.1	290.9	294.9	301.7	308.7	315.7	322.7	329.0
130°	300.5	301.4	302.4	303.3	304.3	307.5	313.1	318.7	324.4	329.9	336.2
132.5°	313.6	314.3	315.1	315.8	316.6	319.2	323.8	328.2	332.8	337.3	343.3
135°	329.5	330.6	331.8	333.0	334.2	336.2	339.1	342.1	345.1	348.0	353.6
137.5°	346.7	347.5	348.2	349.0	349.7	351.0	352.7	354.5	356.3	358.0	362.9
140°	357.9	358.3	358.6	359.0	359.3	360.1	361.4	362.6	363.9	365.2	369.5
142.5°	367.3	367.6	367.9	368.2	368.5	369.1	370.1	371.1	372.1	373.1	376.7
145°	381.0	381.0	380.9	380.8	380.7	381.3	382.5	383.8	385.1	386.3	388.2
147.5°	393.9	393.6	393.3	393.0	392.8	393.2	394.5	395.8	397.0	398.2	398.7
150°	402.2	401.7	401.2	400.7	400.2	400.6	401.7	402.9	404.0	405.3	405.7
152.5°	409.3	408.8	408.2	407.6	407.1	407.3	408.4	409.5	410.6	411.7	412.1
155°	419.6	418.9	418.3	417.6	417.0	417.1	418.0	418.8	419.7	420.5	421.0
157.5°	427.6	427.1	426.5	426.0	425.4	425.5	426.1	426.7	427.3	427.9	428.4
160°	432.3	431.9	431.4	431.0	430.6	430.6	431.0	431.4	431.9	432.3	432.7
162.5°	436.5	436.1	435.7	435.2	434.7	434.7	435.0	435.5	435.9	436.3	436.8
165°	442.1	441.7	441.2	440.8	440.4	440.3	440.5	440.7	440.9	441.1	441.6
167.5°	446.3	445.9	445.5	444.9	444.5	444.4	444.6	444.8	445.0	445.2	445.8
170°	448.7	448.2	447.8	447.4	446.9	446.8	446.9	447.1	447.2	447.4	447.9
172.5°	450.2	449.8	449.3	448.9	448.5	448.3	448.5	448.6	448.8	448.9	449.4
175°	452.2	451.7	451.2	450.7	450.2	450.0	450.2	450.3	450.5	450.6	451.1
177.5°	452.5	452.1	451.7	451.3	450.9	450.8	450.8	450.9	450.9	451.0	451.4
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2



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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°	167.7	177.2	186.6	192.8	195.8	198.7	201.7	204.6
90°	161.7	171.2	180.8	186.9	189.9	192.7	195.6	198.5
92.5°	154.6	163.7	172.9	178.9	181.8	184.6	187.4	190.3
95°	149.5	158.4	167.5	173.4	176.1	178.7	181.5	184.1
97.5°	144.3	153.0	161.8	167.5	170.4	173.2	175.9	178.7
100°	139.9	148.9	157.9	163.8	166.4	169.2	171.8	174.4
102.5°	134.5	143.6	152.7	158.5	161.3	164.0	166.7	169.5
105°	126.2	135.0	143.8	149.7	152.5	155.3	158.0	160.9
107.5°	121.9	128.8	135.6	140.5	143.3	146.1	149.0	151.7
110°	132.6	132.6	132.7	134.1	136.9	139.8	142.6	145.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	175.3	156.2	137.0	128.9	131.6	134.4	137.1	139.9
115°	209.8	183.2	156.4	141.7	139.1	136.3	133.6	130.9
117.5°	273.9	272.5	271.1	263.1	248.2	233.4	218.5	203.8
120°	302.4	309.6	316.9	316.9	309.6	302.4	295.1	287.8
122.5°	311.7	318.5	325.3	328.8	329.0	329.3	329.5	329.8
125°	324.4	331.0	337.7	342.2	344.5	346.8	349.0	351.3
127.5°	335.5	341.8	348.3	352.5	354.6	356.7	358.7	360.7
130°	342.5	348.8	355.2	359.1	360.9	362.6	364.5	366.2
132.5°	349.2	355.3	361.2	365.2	366.9	368.6	370.4	372.1
135°	359.0	364.6	370.1	373.8	375.5	377.1	378.8	380.5
137.5°	367.9	372.7	377.7	380.8	382.1	383.4	384.8	386.1
140°	373.8	378.1	382.4	385.1	386.1	387.1	388.1	389.1
142.5°	380.2	383.7	387.3	389.4	390.3	391.1	391.9	392.7
145°	390.0	391.9	393.8	395.2	395.9	396.7	397.5	398.3
147.5°	399.3	399.8	400.4	400.8	401.0	401.3	401.5	401.8
150°	406.1	406.5	407.0	407.0	406.7	406.3	405.9	405.6
152.5°	412.6	413.0	413.4	413.4	412.9	412.5	412.0	411.5
155°	421.4	421.8	422.3	422.2	421.6	421.1	420.5	419.9
157.5°	428.9	429.4	429.8	429.8	429.2	428.7	428.1	427.6
160°	433.2	433.6	434.0	434.0	433.5	433.0	432.5	432.0
162.5°	437.2	437.7	438.2	438.2	437.5	436.9	436.3	435.7
165°	442.1	442.6	443.1	443.1	442.6	442.1	441.6	441.1
167.5°	446.3	446.8	447.3	447.2	446.6	445.9	445.2	444.5
170°	448.4	448.9	449.4	449.3	448.7	448.0	447.4	446.7
172.5°	449.9	450.4	450.9	450.9	450.2	449.6	448.9	448.3
175°	451.6	452.1	452.6	452.5	451.8	451.1	450.3	449.6
177.5°	451.8	452.2	452.6	452.5	452.0	451.5	451.0	450.5
180°	451.2	451.2	451.2	451.2	451.2	451.2	451.2	451.2

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