

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: P331344-940

Luminaire Tested: **SA2XXDIP-C675D530U940-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331344-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C675D530U940-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

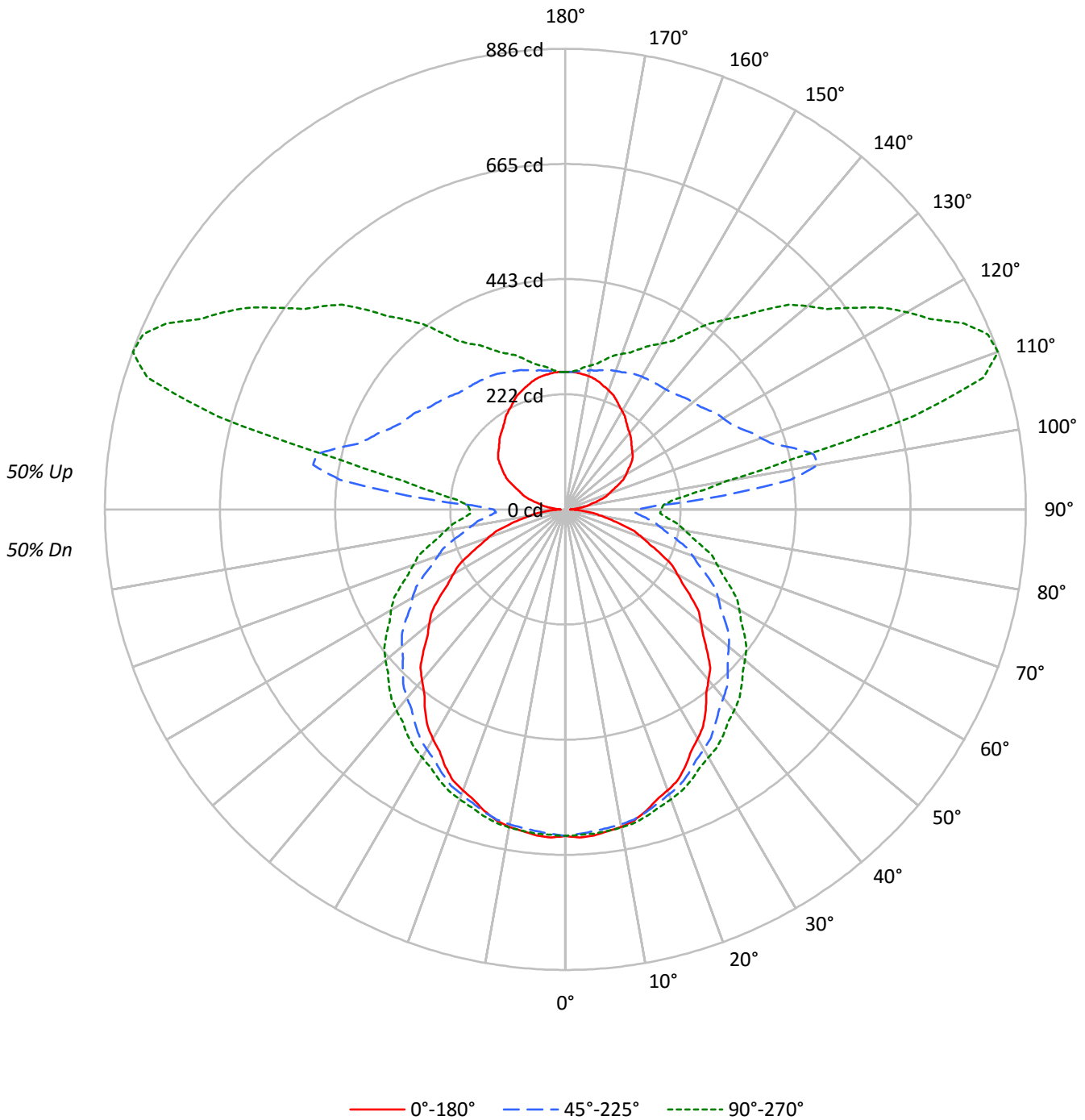
Lumens per Lamp: N/A  
Luminaire Lumens: 4238.8 lumens  
Efficiency: N/A  
Efficacy: 105.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 40.3  
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	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	96	91	87	83	89	84	80	77	71	68	65	59	57	55	47	46	45	39				
2	87	79	72	66	80	73	67	62	61	57	53	51	47	44	41	38	36	32				
3	79	69	61	55	72	64	57	51	54	48	44	44	40	37	36	33	30	26				
4	72	61	52	46	66	56	49	43	47	41	37	39	35	31	32	28	26	22				
5	66	54	45	39	60	50	42	36	42	36	32	35	30	27	28	25	22	19				
6	61	48	40	34	56	45	37	31	38	32	27	31	27	23	26	22	19	16				
7	56	43	35	29	51	40	33	27	34	28	24	29	24	20	23	20	17	14				
8	52	39	31	26	48	36	29	24	31	25	21	26	21	18	21	18	15	13				
9	48	36	28	23	44	33	26	21	28	23	19	24	19	16	20	16	14	11				
10	45	33	25	20	42	30	24	19	26	21	17	22	18	15	18	15	12	10				

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

	0°	45°	90°
0°	10141	10141	10141
5°	10191	9762	9724
10°	10126	9474	9367
15°	9987	9168	8990
20°	9810	8841	8627
25°	9637	8525	8298
30°	9392	8201	7967
35°	9142	7888	7735
40°	8880	7621	7501
45°	8632	7383	7302
50°	8365	7166	7106
55°	8089	6934	6906
60°	7745	6695	6695
65°	7391	6412	6445
70°	6992	6110	6173
75°	6483	5811	5925
80°	5680	5509	5672
85°	4908	5245	5473



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	1.4
10°-20°	170.7	4.0
20°-30°	258.6	6.1
30°-40°	315.0	7.4
40°-50°	338.9	8.0
50°-60°	329.1	7.8
60°-70°	287.4	6.8
70°-80°	221.2	5.2
80°-90°	150.9	3.6
90°-100°	208.0	4.9
100°-110°	433.5	10.2
110°-120°	430.5	10.2
120°-130°	341.3	8.1
130°-140°	263.5	6.2
140°-150°	192.4	4.5
150°-160°	133.8	3.2
160°-170°	78.8	1.9
170°-180°	25.6	0.6
0°-30°	488.8	11.5
0°-40°	803.8	19.0
0°-60°	1471.8	34.7
0°-90°	2131.3	50.3
90°-120°	1072.0	25.3
90°-150°	1869.3	44.1
90°-180°	2108.0	49.7
0°-180°	4238.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	628	628	628	628	628	
5°	630	627	622	627	626	60
15°	601	602	603	610	610	169
25°	546	553	561	571	574	251
35°	471	486	503	523	530	294
45°	386	411	442	470	480	298
55°	296	329	376	408	420	264
65°	202	247	300	336	350	201
75°	112	163	221	259	272	118
85°	33	89	148	184	198	35
90°	10	69	137	172	184	7
95°	25	94	304	213	208	25
105°	67	126	455	782	693	71
115°	113	153	370	732	846	112
125°	154	184	334	582	676	137
135°	180	215	310	471	543	139
145°	204	235	298	375	415	128
155°	232	251	289	327	340	107
165°	253	261	277	294	298	71
175°	264	264	266	270	269	25
180°	264	264	264	264	264	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	631.8	631.2	630.8	630.3	629.8	629.0	627.9	626.7	625.6	624.5	625.3
5°	629.9	629.3	628.7	628.1	627.5	626.6	625.4	624.2	622.9	621.7	622.9
7.5°	624.3	623.8	623.5	623.0	622.7	622.0	621.1	620.1	619.2	618.3	619.7
10°	619.9	619.5	619.1	618.7	618.3	617.8	617.2	616.6	616.0	615.4	617.0
12.5°	612.6	612.7	612.8	612.9	613.0	612.8	612.3	611.9	611.4	611.0	612.6
15°	600.8	601.2	601.6	602.0	602.4	602.6	602.6	602.6	602.6	602.6	604.4
17.5°	585.5	586.4	587.2	588.1	588.9	589.7	590.3	590.9	591.6	592.3	594.1
20°	575.3	576.3	577.3	578.4	579.3	580.2	581.0	581.9	582.7	583.5	585.8
22.5°	564.4	565.5	566.8	567.9	569.1	570.2	571.4	572.5	573.6	574.8	577.0
25°	546.2	547.6	549.0	550.5	551.9	553.5	555.3	557.1	558.9	560.7	563.2
27.5°	524.3	526.6	529.0	531.3	533.6	535.8	538.0	540.1	542.2	544.4	547.4
30°	509.8	512.4	515.1	517.6	520.3	522.9	525.6	528.2	530.8	533.4	536.6
32.5°	493.7	496.7	499.6	502.6	505.6	508.6	511.8	514.8	517.9	521.0	524.8
35°	470.6	474.0	477.5	480.9	484.4	488.0	491.9	495.7	499.5	503.4	507.8
37.5°	445.5	449.5	453.4	457.4	461.4	465.8	470.8	475.8	480.7	485.7	490.7
40°	428.7	433.2	437.7	442.1	446.6	451.5	457.0	462.4	467.9	473.3	478.6
42.5°	412.8	417.1	421.6	426.1	430.5	435.9	442.2	448.4	454.7	461.0	466.7
45°	385.9	391.5	396.9	402.3	407.8	414.1	421.2	428.3	435.3	442.4	448.7
47.5°	359.5	365.5	371.5	377.4	383.3	390.5	398.8	407.1	415.4	423.7	430.3
50°	341.3	347.7	353.9	360.2	366.4	374.2	383.3	392.4	401.4	410.5	417.4
52.5°	323.9	330.5	337.1	343.7	350.3	358.4	367.9	377.6	387.1	396.7	403.8
55°	295.9	303.1	310.4	317.7	324.9	333.9	344.4	354.9	365.4	375.9	383.3
57.5°	268.1	276.4	284.6	292.8	301.0	310.5	321.2	331.9	342.7	353.4	361.2
60°	248.5	257.2	265.9	274.6	283.3	293.5	305.0	316.5	328.0	339.6	347.2
62.5°	231.0	240.0	249.1	258.1	267.2	277.4	288.9	300.4	312.0	323.5	331.7
65°	202.1	212.0	221.9	231.8	241.7	252.6	264.6	276.5	288.5	300.4	308.7
67.5°	175.5	185.8	196.3	206.6	217.0	228.2	240.4	252.6	264.8	277.1	285.4
70°	156.6	167.1	177.6	188.2	198.7	210.2	222.7	235.2	247.8	260.4	269.0
72.5°	139.1	149.9	160.8	171.7	182.4	194.2	207.0	219.6	232.4	245.0	253.6
75°	112.0	123.3	134.6	146.0	157.3	169.4	182.4	195.3	208.2	221.2	229.9
77.5°	85.8	97.6	109.5	121.3	133.1	145.7	158.8	172.0	185.1	198.2	207.0
80°	68.3	80.6	92.9	105.3	117.6	130.4	143.6	156.7	169.8	183.0	191.5
82.5°	53.7	65.9	78.0	90.2	102.5	115.1	128.5	141.8	155.1	168.4	176.9
85°	32.8	45.3	57.9	70.4	82.9	95.7	108.6	121.5	134.6	147.5	156.0
87.5°	17.9	30.3	42.8	55.0	67.3	80.1	93.5	107.2	120.7	133.8	142.0
90°	9.6	22.8	36.6	49.4	62.2	76.0	91.5	108.0	124.0	137.4	145.0
92.5°	14.5	28.3	42.8	56.0	70.4	86.9	110.8	139.5	166.3	179.7	177.4
95°	25.1	36.6	51.2	65.3	82.9	105.9	141.5	197.9	269.0	304.1	286.8
97.5°	35.4	46.5	60.4	75.8	93.6	117.4	158.5	231.8	341.5	437.2	461.4
100°	45.6	54.6	66.6	82.2	99.9	123.5	161.8	235.1	356.3	492.8	573.5
102.5°	54.1	62.2	73.6	88.5	105.9	129.1	165.0	231.1	343.8	489.7	612.2
105°	66.6	74.5	83.9	97.4	114.5	136.9	171.3	227.1	321.6	455.1	597.4
107.5°	81.1	87.4	95.5	107.3	123.1	144.7	178.0	227.6	307.0	418.7	545.1
110°	90.1	96.2	103.3	114.0	128.7	150.3	182.6	229.2	301.1	400.6	512.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	99.1	104.5	111.4	120.9	134.6	156.1	187.2	231.1	296.9	386.5	487.7
115°	113.0	117.7	123.1	131.3	143.7	163.1	194.1	234.3	292.7	369.9	456.3
117.5°	126.5	130.0	134.5	141.3	152.6	171.7	200.4	237.9	289.5	357.7	433.5
120°	135.5	138.3	142.1	147.6	158.5	177.2	205.2	240.7	287.9	350.4	420.7
122.5°	144.0	146.0	149.4	154.6	165.1	183.8	210.0	243.0	286.9	344.5	409.2
125°	154.4	155.9	159.0	165.1	175.2	192.7	217.5	246.8	284.8	334.0	391.9
127.5°	163.4	165.1	169.2	175.8	185.3	202.4	225.5	251.2	283.9	325.7	375.8
130°	168.6	170.5	175.3	182.3	192.3	208.5	230.5	254.1	283.7	320.6	365.1
132.5°	173.5	175.8	181.0	188.3	198.8	214.5	234.8	257.0	283.7	315.8	355.7
135°	179.9	181.9	188.1	195.6	207.4	222.7	240.9	260.7	283.1	309.5	342.8
137.5°	186.8	189.2	195.3	203.4	214.9	228.5	245.6	263.1	282.4	304.2	332.2
140°	192.1	193.9	199.8	207.8	218.7	232.1	247.7	263.9	281.6	300.9	325.9
142.5°	197.4	198.9	204.3	212.2	222.8	235.1	250.1	265.6	281.7	299.3	321.0
145°	204.5	206.4	211.5	219.2	229.3	240.5	254.2	268.5	282.8	298.0	315.5
147.5°	212.9	214.5	219.4	226.4	234.9	244.8	257.7	270.3	283.1	296.1	310.6
150°	218.6	220.2	224.3	230.9	238.5	247.6	259.3	271.1	282.8	295.0	307.2
152.5°	224.4	225.1	229.2	235.0	242.2	250.5	261.0	271.4	282.0	292.9	304.3
155°	232.4	232.9	235.9	241.6	247.2	254.8	263.4	272.1	280.7	289.4	299.0
157.5°	239.1	239.6	242.1	246.9	251.5	257.8	265.1	272.1	278.4	285.7	294.0
160°	243.6	244.1	246.1	250.2	254.2	259.8	266.0	272.1	277.1	283.3	290.3
162.5°	248.1	247.7	249.8	253.1	256.7	261.1	266.4	271.6	275.9	281.2	287.1
165°	253.2	252.7	253.8	256.8	259.3	262.4	267.0	270.5	273.6	277.1	281.7
167.5°	257.5	256.9	257.8	259.8	261.6	263.5	266.9	269.8	271.3	273.6	276.4
170°	260.4	259.3	259.8	261.4	262.4	263.9	266.4	269.0	270.0	271.5	273.6
172.5°	262.0	261.4	261.1	262.6	263.2	264.3	266.1	267.8	268.4	269.1	270.7
175°	263.9	263.4	262.9	263.9	263.9	264.4	265.5	266.4	266.0	266.4	267.0
177.5°	264.8	264.0	263.6	264.4	264.4	264.4	264.8	265.6	264.8	264.4	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	628.1	628.1	628.1	628.1	628.1	628.1	628.1	628.1
2.5°	626.1	626.9	627.7	627.9	627.6	627.3	627.0	626.7
5°	624.2	625.4	626.6	627.1	626.9	626.7	626.5	626.2
7.5°	621.2	622.7	624.1	624.7	624.6	624.3	624.1	623.9
10°	618.6	620.2	621.9	622.5	622.3	622.1	622.0	621.7
12.5°	614.2	615.8	617.5	618.1	618.0	617.8	617.6	617.3
15°	606.3	608.1	609.9	610.7	610.6	610.3	610.1	609.9
17.5°	596.0	598.0	599.9	600.8	600.8	600.8	600.8	600.8
20°	588.0	590.2	592.4	593.5	593.5	593.5	593.5	593.5
22.5°	579.3	581.5	583.6	585.0	585.2	585.6	585.9	586.2
25°	565.6	568.0	570.4	571.9	572.6	573.2	573.8	574.4
27.5°	550.5	553.6	556.7	558.4	558.8	559.3	559.7	560.2
30°	539.9	543.1	546.4	548.3	548.9	549.6	550.1	550.7
32.5°	528.5	532.3	535.9	538.3	539.5	540.6	541.6	542.7
35°	512.3	516.7	521.2	524.1	525.6	527.0	528.3	529.8
37.5°	495.6	500.5	505.5	508.7	510.2	511.7	513.2	514.7
40°	483.8	489.1	494.4	497.9	499.7	501.6	503.4	505.2
42.5°	472.4	478.2	483.9	487.8	489.5	491.4	493.2	495.0
45°	455.0	461.2	467.5	471.6	473.7	475.7	477.7	479.7
47.5°	436.8	443.4	449.9	454.2	456.5	458.7	460.9	463.2
50°	424.3	431.1	438.1	442.6	444.9	447.1	449.2	451.5
52.5°	410.8	417.9	424.9	429.6	431.9	434.4	436.8	439.2
55°	390.5	397.8	405.1	410.0	412.7	415.3	417.9	420.5
57.5°	369.1	376.9	384.8	390.0	392.7	395.4	398.1	400.7
60°	354.9	362.6	370.3	375.6	378.4	381.2	384.1	386.9
62.5°	339.8	348.0	356.2	361.7	364.3	366.9	369.6	372.3
65°	317.0	325.3	333.6	339.0	341.7	344.3	347.0	349.6
67.5°	293.8	302.2	310.6	316.2	318.9	321.6	324.4	327.2
70°	277.8	286.4	295.2	300.7	303.1	305.6	308.0	310.4
72.5°	262.2	270.6	279.2	284.9	287.8	290.8	293.6	296.6
75°	238.6	247.3	256.0	261.6	264.3	266.9	269.6	272.2
77.5°	215.6	224.3	232.9	238.6	241.5	244.3	247.1	249.9
80°	199.9	208.5	217.0	222.7	225.4	228.3	231.1	234.0
82.5°	185.4	193.9	202.4	207.9	210.6	213.3	216.0	218.6
85°	164.4	173.0	181.5	187.1	189.9	192.8	195.6	198.4
87.5°	150.1	158.2	166.7	172.2	174.8	177.4	179.9	182.5
90°	152.7	159.7	168.8	174.6	177.0	179.4	181.8	184.3
92.5°	173.8	175.4	179.1	181.1	183.2	184.0	186.8	188.4
95°	253.3	230.0	216.3	210.2	206.0	204.3	205.3	208.2
97.5°	422.8	373.7	326.1	294.4	272.4	262.3	257.3	255.4
100°	570.2	514.7	452.5	395.8	355.9	336.3	323.7	316.7
102.5°	665.4	658.4	614.8	554.4	510.8	475.6	459.5	449.2
105°	710.3	774.9	788.5	776.4	747.1	717.8	698.2	693.3
107.5°	664.1	757.4	817.1	846.2	852.4	852.9	850.8	843.5
110°	626.1	723.5	795.1	841.2	865.3	877.2	884.0	885.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	590.8	684.7	760.7	812.9	845.5	863.9	874.8	879.8
115°	546.3	630.7	703.4	759.9	798.3	823.9	839.3	846.1
117.5°	510.8	585.6	651.9	705.1	744.0	770.8	786.8	792.6
120°	492.0	560.7	620.3	670.5	708.3	734.4	751.4	758.7
122.5°	476.3	539.6	596.1	641.6	675.5	700.9	715.9	722.0
125°	452.8	510.6	560.8	602.6	633.9	655.1	669.6	675.5
127.5°	429.5	482.0	529.2	567.8	595.3	615.2	627.9	632.9
130°	414.7	463.2	508.3	545.1	571.7	590.6	602.4	608.1
132.5°	400.2	445.4	487.1	521.7	547.9	566.8	577.7	583.0
135°	380.0	417.9	455.7	487.1	510.6	529.0	539.8	543.4
137.5°	362.8	394.7	425.0	452.4	473.7	489.5	498.9	503.4
140°	352.0	379.7	406.4	431.0	448.4	462.9	471.7	476.0
142.5°	343.6	366.9	389.7	410.2	426.7	439.8	447.6	449.3
145°	332.4	350.4	367.5	383.3	396.5	406.2	412.2	414.8
147.5°	324.1	337.5	350.0	361.1	371.7	379.1	383.0	384.4
150°	319.3	330.6	341.3	350.4	358.0	364.1	367.1	367.7
152.5°	314.9	325.3	334.3	342.2	348.2	353.6	355.8	355.9
155°	308.7	316.8	324.4	330.0	335.6	339.2	341.3	340.2
157.5°	301.5	308.3	314.7	319.1	323.0	326.0	326.9	326.9
160°	296.9	302.6	308.2	311.7	315.3	317.8	318.3	318.3
162.5°	292.5	297.3	302.1	304.8	308.4	310.1	310.6	310.2
165°	285.8	289.4	292.9	295.0	296.9	299.0	299.0	298.5
167.5°	279.4	282.1	284.5	286.4	287.3	288.5	288.4	287.8
170°	276.2	277.7	279.7	280.7	281.2	282.8	282.2	281.2
172.5°	272.5	273.6	275.2	275.8	276.3	277.1	276.5	275.9
175°	268.5	269.0	269.6	270.0	270.0	270.5	270.0	269.0
177.5°	265.6	265.6	266.1	266.1	266.1	266.1	265.6	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4

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