

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: P331656-930

Luminaire Tested: **SA2XXRDIP-C485D530U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331656-930
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: SA2XXRDIP-C485D530U930-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

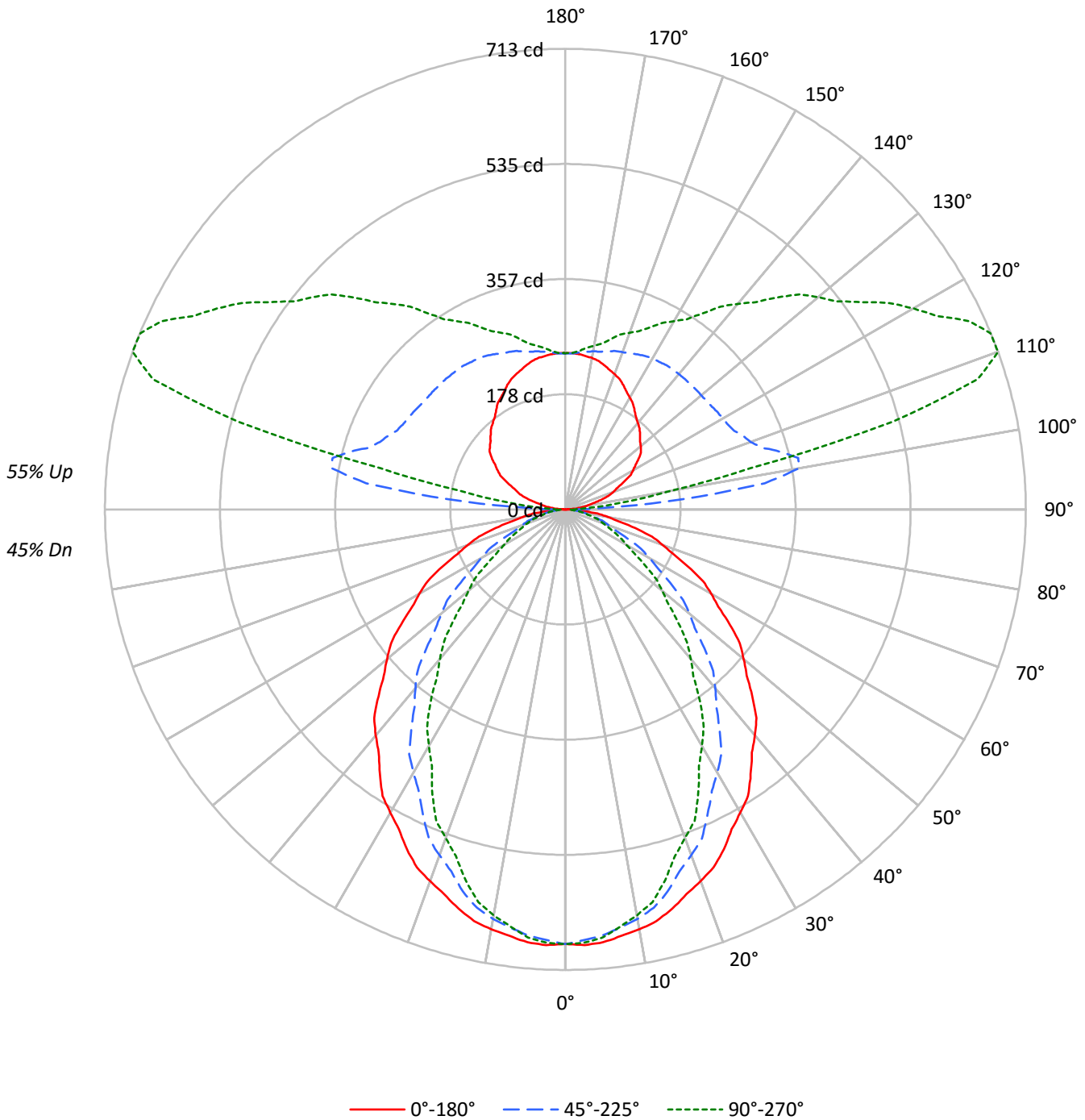
Lumens per Lamp: N/A
Luminaire Lumens: 3068.5 lumens
Efficiency: N/A
Efficacy: 93.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 32.8
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	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45
1	97	93	89	86	89	85	82	79	71	69	67	58	57	55	46	45	44	39
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	41	40	38	33
3	81	72	65	60	74	67	60	56	56	51	48	46	43	40	37	35	33	29
4	75	64	57	51	68	59	53	47	50	45	41	41	38	35	33	31	29	25
5	69	57	49	44	63	53	46	41	45	40	36	37	33	30	30	27	25	22
6	63	52	44	38	58	48	41	36	41	35	31	34	30	27	28	25	22	20
7	59	47	39	34	54	43	36	32	37	32	28	31	27	24	25	22	20	17
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16
9	51	39	32	27	47	36	30	25	31	26	22	26	22	19	22	19	17	14
10	47	36	29	24	44	33	27	23	29	24	20	24	20	18	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10863	10863	10863
5°	10904	10728	10786
10°	10822	10552	10462
15°	10696	10238	9944
20°	10524	9792	9301
25°	10349	9285	8678
30°	10103	8764	7879
35°	9865	8198	7177
40°	9624	7611	6365
45°	9344	6951	5631
50°	9053	6285	4908
55°	8757	5571	4217
60°	8415	4818	3500
65°	8027	4046	3186
70°	7558	3333	2932
75°	6987	3038	2739
80°	6174	2715	2492
85°	4854	2149	2149



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.0	2.1
10°-20°	172.9	5.6
20°-30°	242.8	7.9
30°-40°	264.8	8.6
40°-50°	243.5	7.9
50°-60°	191.2	6.2
60°-70°	124.7	4.1
70°-80°	64.3	2.1
80°-90°	18.9	0.6
90°-100°	96.7	3.2
100°-110°	328.1	10.7
110°-120°	348.5	11.4
120°-130°	286.9	9.4
130°-140°	230.4	7.5
140°-150°	174.1	5.7
150°-160°	122.4	4.0
160°-170°	72.0	2.3
170°-180°	23.4	0.8
0°-30°	478.7	15.6
0°-40°	743.5	24.2
0°-60°	1178.2	38.4
0°-90°	1386.0	45.2
90°-120°	773.2	25.2
90°-150°	1464.6	47.7
90°-180°	1682.0	54.8
0°-180°	3068.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	673	673	673	673	673	
5°	673	670	662	667	666	64
15°	640	632	612	601	595	180
25°	581	560	521	497	487	267
35°	500	468	416	379	364	313
45°	409	367	304	263	247	316
55°	311	263	198	163	150	278
65°	210	160	106	86	83	208
75°	112	71	49	45	44	119
85°	26	14	12	12	12	31
90°	0	6	16	15	15	2
95°	16	40	182	69	53	17
105°	57	86	344	616	524	60
115°	100	126	288	595	690	99
125°	140	165	277	482	559	124
135°	164	195	274	405	464	126
145°	187	215	272	338	370	117
155°	212	229	265	299	311	98
165°	232	238	253	269	273	65
175°	241	242	244	247	246	23
180°	242	242	242	242	242	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8
2.5°	675.2	674.7	674.2	673.6	673.1	672.2	671.1	669.8	668.6	667.5	668.5
5°	672.8	672.1	671.5	670.8	670.1	668.9	667.2	665.4	663.7	661.9	663.1
7.5°	665.9	665.0	664.2	663.3	662.5	661.0	659.0	657.0	654.9	652.9	653.2
10°	660.1	659.1	658.1	657.2	656.2	654.4	651.8	649.0	646.3	643.6	643.2
12.5°	652.7	651.6	650.4	649.2	648.1	645.8	642.3	638.9	635.4	631.9	631.2
15°	639.9	638.5	637.0	635.4	634.0	631.0	626.3	621.7	617.2	612.5	610.0
17.5°	624.3	622.0	619.7	617.4	615.1	611.1	605.2	599.2	593.4	587.4	584.4
20°	612.5	609.8	607.2	604.5	601.7	597.0	590.2	583.4	576.7	569.9	566.6
22.5°	599.9	596.9	593.8	590.8	587.7	582.4	574.8	567.1	559.5	551.9	547.6
25°	580.9	576.6	572.3	567.9	563.5	556.9	548.0	539.1	530.1	521.2	515.7
27.5°	558.0	553.3	548.5	543.9	539.2	531.7	521.7	511.6	501.6	491.5	485.0
30°	541.9	536.8	531.7	526.5	521.4	513.4	502.6	491.7	480.9	470.1	463.2
32.5°	526.4	520.3	514.3	508.3	502.3	493.7	482.7	471.7	460.6	449.6	441.7
35°	500.5	493.6	486.7	479.8	472.9	463.5	451.6	439.7	427.8	415.9	407.3
37.5°	474.7	467.1	459.5	451.9	444.4	434.2	421.6	408.9	396.2	383.5	374.1
40°	456.6	448.6	440.4	432.4	424.2	413.6	400.5	387.3	374.2	361.1	351.5
42.5°	438.1	429.6	421.0	412.5	404.0	392.9	379.4	365.7	352.2	338.7	328.7
45°	409.2	400.1	391.0	382.0	372.9	361.3	347.1	332.9	318.6	304.4	294.8
47.5°	380.9	371.3	361.7	352.1	342.5	330.4	315.7	301.0	286.3	271.7	262.1
50°	360.4	350.8	341.3	331.7	322.0	309.8	294.9	280.1	265.1	250.2	240.9
52.5°	340.5	330.4	320.4	310.4	300.4	288.0	273.5	258.9	244.3	229.8	220.8
55°	311.1	300.6	290.0	279.5	269.0	256.3	241.7	227.1	212.5	197.9	189.8
57.5°	281.0	270.3	259.4	248.6	237.7	225.3	211.3	197.2	183.2	169.2	161.7
60°	260.6	249.8	239.0	228.1	217.3	205.0	191.0	177.1	163.1	149.2	142.3
62.5°	240.6	229.8	219.0	208.1	197.3	185.3	172.0	158.7	145.4	132.2	125.6
65°	210.1	199.1	188.2	177.2	166.2	154.7	142.5	130.3	118.1	105.9	101.3
67.5°	180.6	169.7	158.8	148.0	137.1	126.1	115.2	104.3	93.3	82.3	80.2
70°	160.1	149.6	139.0	128.5	117.9	107.9	98.7	89.3	80.0	70.6	69.3
72.5°	140.6	130.5	120.4	110.3	100.2	91.4	83.9	76.4	68.9	61.4	60.3
75°	112.0	102.6	93.1	83.6	74.1	67.1	62.5	57.9	53.3	48.7	47.8
77.5°	83.9	75.6	67.3	58.9	50.7	45.4	43.2	41.0	38.7	36.5	36.0
80°	66.4	59.4	52.6	45.7	38.7	34.7	33.3	32.0	30.6	29.2	28.7
82.5°	50.3	44.9	39.5	34.2	28.8	25.6	24.7	23.7	22.8	21.9	21.6
85°	26.2	23.3	20.5	17.7	14.8	13.2	12.8	12.4	12.0	11.6	11.6
87.5°	7.9	7.3	6.8	6.1	5.5	5.3	5.8	6.4	6.9	7.1	6.8
90°	0.5	1.9	3.8	4.6	5.5	7.0	9.3	12.6	15.3	15.8	15.3
92.5°	5.7	8.2	11.5	13.6	16.7	21.1	31.6	46.4	59.6	60.4	51.0
95°	16.3	18.1	22.7	27.0	34.4	45.6	66.9	107.4	161.3	182.3	159.5
97.5°	26.5	29.0	33.9	40.3	48.8	61.5	88.4	144.7	234.3	311.1	326.4
100°	35.8	37.2	41.4	48.8	58.1	71.2	95.8	152.5	252.9	367.3	434.2
102.5°	44.4	45.4	49.6	57.0	66.7	79.7	102.5	152.9	245.9	369.2	474.4
105°	56.7	58.6	61.8	68.8	79.0	92.0	113.9	155.3	232.0	344.5	468.2
107.5°	70.1	71.6	74.8	81.2	91.3	104.4	125.6	161.7	225.1	318.1	427.4
110°	79.0	80.9	83.7	89.8	99.5	113.0	133.5	166.9	223.6	305.5	401.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	87.2	89.1	92.2	97.9	107.3	121.2	140.9	172.5	224.0	297.3	383.8
115°	100.0	102.3	105.1	110.6	119.9	132.5	152.5	180.8	226.0	288.3	361.7
117.5°	113.2	115.0	117.8	122.8	131.7	144.7	163.2	189.8	229.3	283.9	347.8
120°	121.3	123.2	126.0	130.2	139.5	152.5	170.6	195.8	231.5	281.3	340.4
122.5°	129.1	130.7	133.5	138.0	147.3	160.7	177.7	201.0	234.2	279.8	334.0
125°	139.5	140.9	143.7	149.3	158.6	171.5	188.3	209.2	238.1	277.1	325.0
127.5°	147.7	149.5	153.4	159.6	168.5	181.9	198.2	217.0	242.1	275.6	316.7
130°	152.5	154.3	159.0	165.5	174.8	187.8	204.2	221.8	245.0	274.8	311.0
132.5°	156.9	159.2	164.2	171.1	180.8	193.8	209.3	226.7	248.0	274.4	306.6
135°	163.6	165.5	171.1	178.1	188.7	201.8	216.7	232.9	251.5	273.9	300.4
137.5°	170.0	172.2	177.8	185.2	195.8	207.9	222.7	237.7	254.7	273.8	296.0
140°	174.8	176.7	182.3	189.7	199.9	212.1	226.0	240.4	256.2	273.4	293.4
142.5°	179.7	181.2	186.4	193.8	203.7	215.0	228.6	242.6	257.3	273.4	290.8
145°	186.9	188.7	193.4	200.4	209.7	219.9	232.4	245.5	258.5	272.5	287.3
147.5°	194.7	196.1	200.6	207.0	214.7	223.8	235.6	247.1	258.9	270.8	283.8
150°	199.9	201.3	205.0	211.1	218.1	226.4	237.1	247.9	258.5	269.7	280.9
152.5°	205.1	205.8	209.5	214.8	221.4	229.0	238.6	248.2	257.8	267.8	278.3
155°	212.5	213.0	215.7	220.9	226.0	232.9	240.8	248.7	256.7	264.6	273.4
157.5°	218.6	219.1	221.4	225.8	229.9	235.7	242.4	248.7	254.5	261.2	268.8
160°	222.7	223.1	225.0	228.8	232.4	237.6	243.2	248.7	253.4	259.0	265.5
162.5°	226.8	226.5	228.4	231.4	234.7	238.7	243.5	248.3	252.3	257.1	262.5
165°	231.5	231.1	232.0	234.8	237.1	239.9	244.1	247.4	250.1	253.4	257.6
167.5°	235.5	234.9	235.7	237.5	239.2	240.9	244.0	246.7	248.0	250.1	252.7
170°	238.1	237.1	237.6	239.0	239.9	241.3	243.6	246.0	246.9	248.3	250.1
172.5°	239.5	239.0	238.7	240.1	240.7	241.7	243.3	244.8	245.4	246.1	247.5
175°	241.3	240.8	240.4	241.3	241.3	241.7	242.7	243.6	243.2	243.6	244.1
177.5°	242.1	241.4	241.0	241.7	241.7	241.7	242.1	242.9	242.1	241.7	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8
2.5°	669.6	670.7	671.8	672.2	672.1	671.8	671.6	671.4
5°	664.3	665.5	666.8	667.2	666.8	666.3	665.9	665.5
7.5°	653.5	653.9	654.3	654.1	653.4	652.6	652.0	651.3
10°	642.8	642.4	642.0	641.4	640.6	639.8	639.0	638.1
12.5°	630.5	629.7	629.0	627.9	626.6	625.3	623.9	622.6
15°	607.4	604.9	602.3	600.3	598.9	597.6	596.2	594.9
17.5°	581.3	578.3	575.2	572.5	570.2	567.9	565.6	563.2
20°	563.1	559.8	556.4	553.2	550.2	547.2	544.3	541.3
22.5°	543.2	538.8	534.5	531.2	529.0	526.8	524.6	522.3
25°	510.1	504.6	499.0	495.2	493.2	491.1	489.2	487.1
27.5°	478.6	472.1	465.6	460.8	457.5	454.4	451.1	447.9
30°	456.2	449.4	442.5	437.2	433.5	429.9	426.2	422.6
32.5°	433.8	426.0	418.1	412.5	409.0	405.6	402.1	398.7
35°	398.8	390.3	381.8	376.0	373.1	370.1	367.1	364.1
37.5°	364.7	355.3	345.9	339.5	336.1	332.7	329.3	325.9
40°	341.9	332.2	322.6	316.1	312.6	309.1	305.5	302.0
42.5°	318.8	308.8	299.0	292.3	288.9	285.4	282.0	278.6
45°	285.2	275.7	266.0	259.6	256.3	253.1	249.8	246.6
47.5°	252.6	243.0	233.5	227.2	224.3	221.4	218.3	215.4
50°	231.5	222.3	212.9	206.8	204.0	201.1	198.3	195.4
52.5°	211.7	202.8	193.7	187.9	185.3	182.7	180.0	177.4
55°	181.6	173.5	165.4	160.0	157.5	154.9	152.4	149.8
57.5°	154.3	146.8	139.4	134.6	132.4	130.3	128.1	125.9
60°	135.3	128.5	121.6	117.1	114.9	112.7	110.6	108.4
62.5°	119.0	112.4	105.8	101.9	100.6	99.3	98.0	96.7
65°	96.8	92.1	87.6	85.0	84.6	84.2	83.8	83.4
67.5°	78.1	76.0	73.9	72.6	72.2	71.7	71.3	70.8
70°	67.9	66.6	65.2	64.2	63.8	63.2	62.6	62.1
72.5°	59.1	58.0	56.8	56.1	55.8	55.4	55.1	54.8
75°	46.8	45.9	44.9	44.4	44.3	44.1	43.9	43.9
77.5°	35.5	34.9	34.4	34.0	33.8	33.6	33.3	33.1
80°	28.1	27.6	27.1	26.8	26.8	26.8	26.8	26.8
82.5°	21.3	21.0	20.6	20.5	20.5	20.5	20.5	20.5
85°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
87.5°	6.7	6.4	6.4	6.4	6.4	6.4	6.4	6.4
90°	14.8	13.9	14.8	15.3	15.3	15.3	15.3	15.3
92.5°	40.5	34.8	30.9	28.0	27.6	26.2	26.5	25.8
95°	121.8	93.4	73.9	63.7	57.6	54.0	52.5	53.0
97.5°	284.3	232.6	182.3	148.7	126.5	115.0	108.3	104.4
100°	424.5	366.9	303.1	246.9	208.3	188.3	174.8	166.5
102.5°	516.4	503.4	456.8	397.1	355.2	321.1	304.3	292.9
105°	564.9	617.4	623.5	608.1	579.4	550.5	530.5	524.0
107.5°	529.9	609.1	657.5	680.0	683.5	682.0	678.0	669.4
110°	499.9	583.0	642.5	680.7	700.7	709.6	713.7	713.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	472.3	552.2	615.8	659.5	687.3	702.1	710.0	712.5
115°	438.5	510.1	571.0	618.9	651.8	673.3	685.3	689.5
117.5°	412.9	475.8	531.1	576.0	609.7	632.3	645.0	648.5
120°	400.3	458.0	507.3	549.6	582.1	604.0	617.4	622.1
122.5°	390.3	443.1	489.8	528.0	557.2	578.7	590.7	594.6
125°	375.7	423.5	464.5	499.4	526.4	544.0	555.6	559.4
127.5°	361.3	404.6	443.2	475.4	498.9	515.4	525.5	528.5
130°	352.0	392.0	428.7	459.3	482.2	498.0	507.3	510.9
132.5°	343.1	380.1	413.8	442.6	465.0	480.9	489.4	492.8
135°	330.6	361.3	392.0	418.0	438.0	453.3	461.7	463.6
137.5°	320.7	346.3	370.6	393.4	411.6	424.8	432.1	434.9
140°	314.3	336.6	358.0	378.5	393.4	405.4	412.4	415.2
142.5°	309.1	328.1	346.5	363.6	377.7	388.7	394.9	395.5
145°	301.7	317.1	331.5	345.0	356.1	364.0	368.7	370.1
147.5°	296.1	308.2	319.4	329.3	338.5	344.8	348.0	348.8
150°	292.0	302.2	312.0	320.3	327.3	332.9	335.7	336.1
152.5°	287.9	297.4	305.7	312.9	318.4	323.3	325.3	325.4
155°	282.3	289.7	296.6	301.7	306.9	310.1	312.0	311.0
157.5°	275.7	281.8	287.7	291.7	295.3	298.1	298.9	298.9
160°	271.5	276.6	281.8	285.0	288.3	290.6	291.1	291.1
162.5°	267.4	271.8	276.2	278.7	281.9	283.6	284.0	283.6
165°	261.3	264.6	267.8	269.7	271.5	273.4	273.4	273.0
167.5°	255.4	258.0	260.2	261.9	262.7	263.7	263.7	263.1
170°	252.5	253.9	255.8	256.7	257.1	258.5	258.0	257.1
172.5°	249.2	250.1	251.6	252.2	252.7	253.3	252.8	252.3
175°	245.5	246.0	246.5	246.9	246.9	247.4	246.9	246.0
177.5°	242.9	242.9	243.3	243.3	243.3	243.3	242.9	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7

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