

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: P331293-830

Luminaire Tested: **SA2XXDIP-C485D330U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

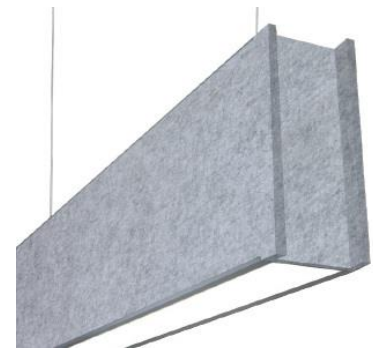
Test Information

Test Method: LM-79-08
Report Number: P331293-830
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-C485D330U830-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3069.1 lumens
Efficiency: N/A
Efficacy: 111.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

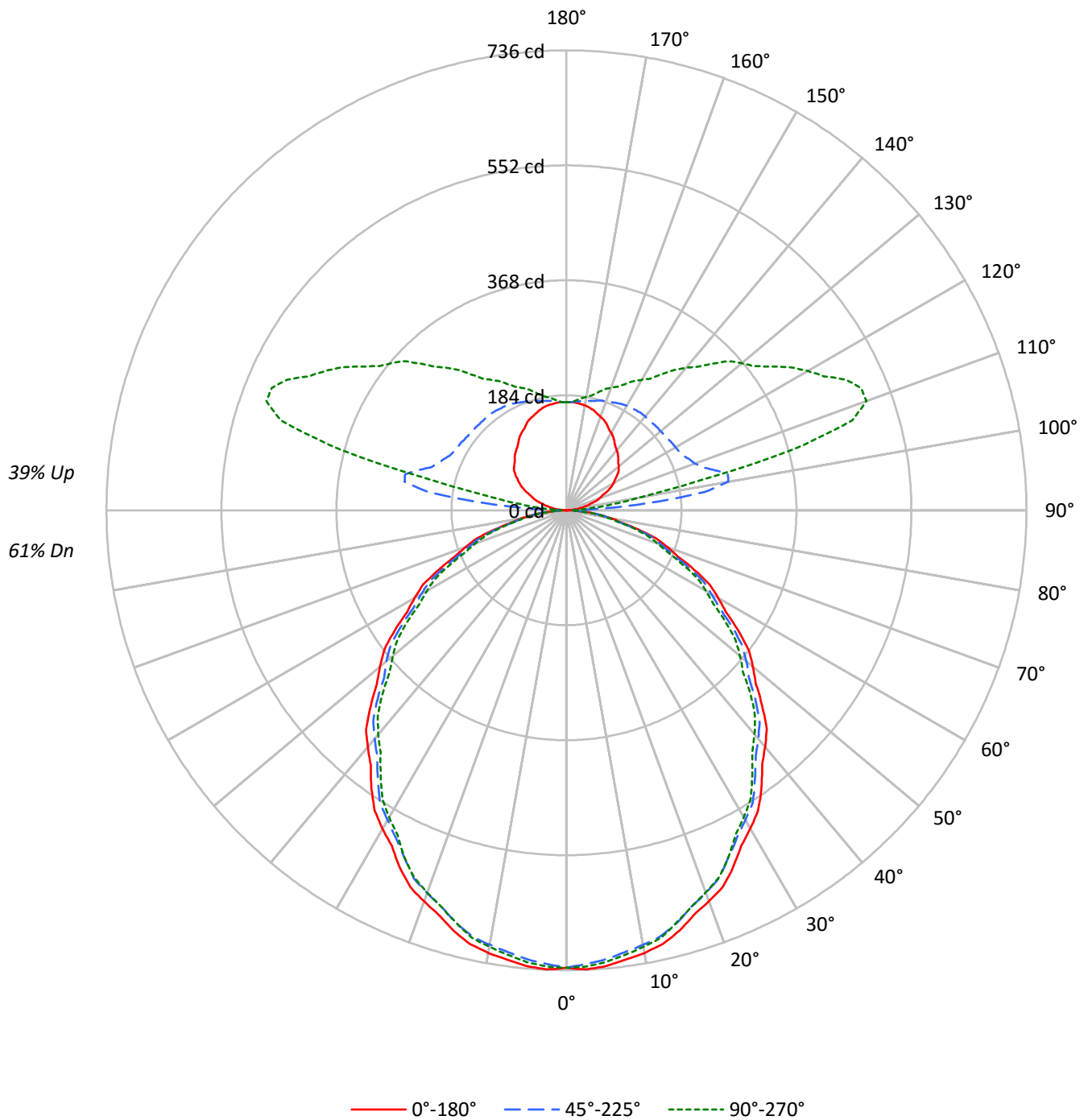
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66
1	100	96	92	88	94	90	86	83	78	76	73	68	66	64	58	57	56
2	91	84	77	72	85	78	73	68	69	64	61	60	57	54	51	49	47
3	83	74	66	60	78	69	62	57	61	55	51	53	49	45	46	43	40
4	76	65	57	51	71	61	54	48	54	48	44	47	43	39	41	37	34
5	70	58	50	44	65	55	47	42	48	42	38	42	38	34	37	33	30
6	65	52	44	38	60	49	42	36	44	38	33	38	33	30	33	29	26
7	60	47	39	33	56	45	37	32	40	34	29	35	30	26	30	27	24
8	55	43	35	30	52	41	33	28	36	30	26	32	27	24	28	24	21
9	52	39	32	26	48	37	30	25	33	27	23	29	25	21	26	22	19
10	48	36	29	24	45	34	27	23	31	25	21	27	23	19	24	20	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11820	11820	11820
5°	11866	11694	11763
10°	11795	11576	11632
15°	11649	11425	11413
20°	11442	11201	11187
25°	11236	10922	10922
30°	10972	10670	10577
35°	10724	10364	10212
40°	10416	10060	9866
45°	10111	9757	9515
50°	9779	9442	9105
55°	9433	9073	8740
60°	9045	8638	8318
65°	8630	8202	7824
70°	8105	7676	7312
75°	7380	7068	6900
80°	6546	6341	6025
85°	5335	5076	4557

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.8	2.2
10°-20°	193.7	6.3
20°-30°	284.7	9.3
30°-40°	330.7	10.8
40°-50°	330.4	10.8
50°-60°	288.1	9.4
60°-70°	213.0	6.9
70°-80°	120.7	3.9
80°-90°	34.0	1.1
90°-100°	69.2	2.3
100°-110°	235.0	7.7
110°-120°	249.6	8.1
120°-130°	205.5	6.7
130°-140°	165.0	5.4
140°-150°	124.7	4.1
150°-160°	87.6	2.9
160°-170°	51.6	1.7
170°-180°	16.8	0.5
0°-30°	547.2	17.8
0°-40°	878.0	28.6
0°-60°	1496.4	48.8
0°-90°	1864.1	60.7
90°-120°	553.8	18.0
90°-150°	1049.0	34.2
90°-180°	1205.0	39.3
0°-180°	3069.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	732	732	732	732	732	
5°	732	729	722	727	726	69
15°	697	692	684	686	683	196
25°	631	625	613	614	613	290
35°	544	537	526	522	518	340
45°	443	438	427	420	417	342
55°	335	331	322	314	310	299
65°	226	222	215	208	205	223
75°	118	117	113	109	111	126
85°	29	28	27	25	25	33
90°	0	4	11	11	11	2
95°	12	29	130	49	38	12
105°	41	61	247	441	375	43
115°	72	90	206	426	494	71
125°	100	118	198	345	401	89
135°	117	140	196	290	332	91
145°	134	154	195	242	265	84
155°	152	164	190	214	223	70
165°	166	171	182	192	196	47
175°	173	173	174	177	176	16
180°	173	173	173	173	173	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	735.5	734.8	734.2	733.6	732.9	732.0	730.6	729.2	727.8	726.4	727.7
5°	732.1	731.4	730.8	730.2	729.6	728.4	726.7	725.0	723.2	721.5	722.7
7.5°	725.6	724.6	723.7	722.6	721.7	720.4	718.6	716.9	715.1	713.3	714.6
10°	719.4	718.3	717.2	716.1	715.0	713.5	711.6	709.8	707.9	706.1	707.3
12.5°	711.0	710.0	709.0	708.0	707.1	705.7	703.8	701.9	700.0	698.1	699.0
15°	696.9	696.0	695.0	694.1	693.1	691.6	689.6	687.6	685.5	683.5	684.1
17.5°	678.8	678.0	677.0	676.1	675.1	673.6	671.6	669.5	667.4	665.3	666.1
20°	665.9	665.0	664.0	663.1	662.1	660.6	658.4	656.2	654.0	651.9	652.3
22.5°	653.0	651.7	650.4	649.0	647.7	646.0	643.9	641.9	639.8	637.7	637.8
25°	630.7	629.4	628.2	627.0	625.8	623.8	621.1	618.4	615.8	613.1	613.4
27.5°	605.4	604.3	603.1	602.0	600.9	599.3	597.2	595.0	593.0	590.9	590.4
30°	588.5	587.2	586.0	584.8	583.4	581.6	579.3	577.0	574.7	572.3	571.8
32.5°	570.4	569.5	568.4	567.4	566.5	564.7	562.2	559.8	557.3	554.9	554.0
35°	544.1	542.5	541.0	539.4	537.9	535.8	533.4	530.8	528.3	525.8	524.9
37.5°	514.4	513.0	511.7	510.3	508.9	507.0	504.4	502.0	499.5	497.0	495.8
40°	494.2	492.9	491.6	490.4	489.2	487.3	484.7	482.3	479.8	477.3	475.9
42.5°	474.5	473.2	471.9	470.7	469.5	467.6	465.1	462.6	460.1	457.5	456.0
45°	442.8	441.7	440.5	439.5	438.4	436.7	434.3	432.0	429.6	427.3	425.6
47.5°	411.2	410.2	409.2	408.1	407.1	405.4	402.9	400.5	398.0	395.6	393.8
50°	389.3	388.5	387.7	386.9	386.2	384.7	382.5	380.3	378.1	375.9	373.7
52.5°	367.9	366.8	365.8	364.8	363.7	362.2	360.1	358.1	356.0	353.9	352.1
55°	335.1	334.1	333.2	332.2	331.3	329.9	328.0	326.1	324.2	322.3	320.6
57.5°	302.1	301.3	300.6	299.9	299.2	297.7	295.7	293.6	291.5	289.5	287.6
60°	280.1	279.6	278.9	278.2	277.7	276.3	274.1	271.8	269.7	267.5	265.8
62.5°	258.7	257.8	256.7	255.7	254.8	253.4	251.8	250.1	248.4	246.7	245.1
65°	225.9	225.0	224.0	223.1	222.3	220.9	219.4	217.8	216.2	214.7	213.3
67.5°	192.6	191.8	191.1	190.3	189.5	188.5	187.1	185.7	184.3	182.9	181.8
70°	171.7	171.2	170.5	169.8	169.3	168.2	166.8	165.4	164.0	162.6	161.6
72.5°	150.3	149.8	149.1	148.5	147.9	147.1	146.2	145.2	144.4	143.5	142.3
75°	118.3	117.9	117.6	117.3	117.0	116.5	115.6	114.9	114.1	113.3	112.4
77.5°	89.5	89.0	88.5	87.9	87.4	87.0	86.7	86.3	86.1	85.8	85.3
80°	70.4	70.2	70.1	69.9	69.7	69.6	69.2	68.9	68.6	68.2	67.8
82.5°	52.4	52.3	52.3	52.3	52.2	52.1	51.9	51.7	51.6	51.4	50.8
85°	28.8	28.7	28.6	28.4	28.3	28.1	27.9	27.8	27.6	27.4	27.0
87.5°	10.2	10.2	10.2	10.1	9.9	9.9	10.0	10.2	10.4	10.2	9.7
90°	0.4	1.3	2.6	3.3	4.0	5.0	6.7	9.0	11.0	11.3	11.0
92.5°	4.1	5.8	8.3	9.7	12.0	15.1	22.6	33.3	42.7	43.3	36.6
95°	11.7	13.0	16.3	19.3	24.6	32.6	48.0	76.9	115.6	130.5	114.2
97.5°	18.9	20.7	24.3	28.8	35.0	44.0	63.2	103.7	167.9	222.8	233.8
100°	25.6	26.7	29.6	35.0	41.7	51.0	68.6	109.2	181.2	263.1	311.0
102.5°	31.8	32.5	35.5	40.8	47.8	57.1	73.4	109.5	176.1	264.4	339.8
105°	40.6	41.9	44.3	49.3	56.6	66.0	81.6	111.2	166.2	246.8	335.4
107.5°	50.2	51.3	53.5	58.2	65.4	74.8	90.0	115.8	161.3	227.8	306.1
110°	56.6	58.0	59.9	64.3	71.3	81.0	95.6	119.5	160.2	218.8	287.8

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	62.5	63.8	66.1	70.1	76.8	86.8	100.9	123.6	160.4	212.9	274.9
115°	71.6	73.2	75.3	79.3	86.0	94.9	109.2	129.5	161.8	206.5	259.1
117.5°	81.1	82.4	84.4	87.9	94.3	103.7	116.9	135.9	164.3	203.3	249.1
120°	86.9	88.2	90.3	93.2	99.9	109.2	122.2	140.3	165.9	201.5	243.7
122.5°	92.6	93.6	95.6	98.9	105.5	115.1	127.2	143.9	167.7	200.4	239.2
125°	99.9	100.9	102.9	106.9	113.6	122.9	134.9	149.9	170.5	198.5	232.8
127.5°	105.8	107.1	109.9	114.3	120.6	130.3	141.9	155.4	173.3	197.4	226.8
130°	109.2	110.6	113.9	118.6	125.3	134.5	146.2	158.8	175.5	196.8	222.8
132.5°	112.4	114.0	117.6	122.5	129.5	138.8	150.0	162.3	177.7	196.5	219.6
135°	117.3	118.6	122.5	127.5	135.3	144.5	155.2	166.8	180.2	196.1	215.1
137.5°	121.8	123.4	127.3	132.7	140.3	148.9	159.5	170.3	182.5	196.0	212.0
140°	125.3	126.6	130.5	135.9	143.2	151.8	161.8	172.2	183.5	195.9	210.1
142.5°	128.7	129.8	133.5	138.8	145.9	154.0	163.7	173.8	184.3	195.9	208.3
145°	133.8	135.3	138.6	143.5	150.2	157.5	166.5	175.9	185.1	195.1	205.9
147.5°	139.5	140.4	143.6	148.3	153.8	160.3	168.8	177.0	185.4	194.0	203.3
150°	143.2	144.2	146.8	151.2	156.2	162.2	169.8	177.5	185.1	193.1	201.1
152.5°	146.9	147.4	150.1	153.8	158.6	164.0	170.9	177.8	184.6	191.8	199.3
155°	152.2	152.5	154.5	158.2	161.8	166.8	172.5	178.1	183.8	189.5	195.9
157.5°	156.6	156.9	158.5	161.7	164.7	168.8	173.6	178.1	182.3	187.1	192.6
160°	159.5	159.9	161.2	163.8	166.5	170.2	174.2	178.1	181.5	185.5	190.1
162.5°	162.5	162.2	163.6	165.7	168.1	171.0	174.5	177.9	180.7	184.2	188.0
165°	165.9	165.5	166.2	168.1	169.8	171.8	174.8	177.2	179.2	181.5	184.5
167.5°	168.6	168.2	168.8	170.1	171.4	172.6	174.7	176.7	177.7	179.2	181.1
170°	170.5	169.8	170.2	171.2	171.8	172.9	174.5	176.2	176.8	177.9	179.2
172.5°	171.5	171.2	171.0	172.0	172.4	173.1	174.3	175.4	175.8	176.3	177.3
175°	172.9	172.5	172.2	172.9	172.9	173.1	173.8	174.5	174.2	174.5	174.8
177.5°	173.4	172.9	172.7	173.1	173.1	173.1	173.4	174.0	173.4	173.1	173.4
180°	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	729.0	730.2	731.4	732.0	731.7	731.4	731.2	730.9
5°	724.1	725.3	726.5	727.0	726.7	726.3	726.0	725.8
7.5°	715.9	717.1	718.4	718.8	718.5	718.1	717.7	717.5
10°	708.5	709.8	711.1	711.4	711.0	710.5	710.0	709.5
12.5°	699.9	700.8	701.6	701.9	701.5	701.3	700.9	700.5
15°	684.8	685.4	686.0	685.9	685.1	684.4	683.6	682.8
17.5°	666.8	667.5	668.3	668.2	667.4	666.8	666.0	665.2
20°	652.8	653.3	653.7	653.7	653.0	652.3	651.8	651.1
22.5°	637.9	638.0	638.1	638.0	637.6	637.3	636.9	636.5
25°	613.8	614.1	614.3	614.3	614.1	613.8	613.4	613.1
27.5°	589.9	589.5	589.0	588.4	587.7	586.9	586.2	585.4
30°	571.4	570.9	570.4	569.9	569.2	568.6	568.0	567.3
32.5°	553.2	552.3	551.5	550.7	550.1	549.5	548.8	548.2
35°	524.0	523.0	522.1	521.2	520.5	519.6	518.9	518.1
37.5°	494.6	493.5	492.4	491.3	490.6	489.8	489.1	488.4
40°	474.5	473.1	471.6	470.6	470.0	469.4	468.7	468.1
42.5°	454.5	453.0	451.4	450.3	449.3	448.5	447.6	446.7
45°	423.9	422.2	420.4	419.2	418.6	418.0	417.4	416.7
47.5°	392.0	390.1	388.3	387.0	386.1	385.2	384.3	383.3
50°	371.6	369.3	367.1	365.6	364.9	364.1	363.3	362.5
52.5°	350.3	348.5	346.7	345.3	344.2	343.2	342.1	341.1
55°	318.7	316.8	314.9	313.6	312.7	312.0	311.2	310.5
57.5°	285.8	283.9	282.1	280.9	280.2	279.7	279.1	278.4
60°	264.0	262.3	260.6	259.5	259.0	258.5	258.1	257.6
62.5°	243.5	241.9	240.3	239.2	238.6	238.0	237.4	236.8
65°	211.9	210.5	209.1	207.9	207.2	206.4	205.7	204.8
67.5°	180.7	179.6	178.5	177.7	177.0	176.3	175.8	175.1
70°	160.4	159.3	158.3	157.4	156.7	156.1	155.5	154.9
72.5°	141.3	140.2	139.1	138.3	137.8	137.2	136.8	136.3
75°	111.4	110.6	109.6	109.2	109.6	109.9	110.2	110.6
77.5°	84.8	84.4	83.9	83.4	82.9	82.6	82.1	81.6
80°	67.3	66.8	66.4	66.0	65.7	65.4	65.0	64.8
82.5°	50.2	49.6	49.0	48.6	48.6	48.5	48.4	48.4
85°	26.5	26.0	25.5	25.3	25.1	25.0	24.8	24.6
87.5°	9.2	8.8	8.5	8.3	8.2	8.1	7.9	7.8
90°	10.7	10.0	10.7	11.0	11.0	11.0	11.0	11.0
92.5°	29.0	24.9	22.1	20.1	19.8	18.8	18.9	18.5
95°	87.3	66.9	53.0	45.6	41.3	38.6	37.6	38.0
97.5°	203.6	166.5	130.5	106.5	90.6	82.4	77.6	74.7
100°	304.1	262.8	217.2	176.8	149.2	134.9	125.3	119.2
102.5°	369.9	360.5	327.2	284.5	254.4	230.0	217.9	209.8
105°	404.6	442.2	446.6	435.6	414.9	394.3	379.9	375.3
107.5°	379.6	436.3	470.9	487.0	489.7	488.5	485.6	479.5
110°	358.0	417.6	460.2	487.6	501.9	508.2	511.2	510.9

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	338.3	395.5	441.0	472.4	492.3	502.8	508.5	510.3
115°	314.1	365.3	409.0	443.3	466.9	482.2	490.9	493.9
117.5°	295.8	340.8	380.4	412.6	436.7	452.9	461.9	464.5
120°	286.7	328.0	363.4	393.6	417.0	432.6	442.2	445.6
122.5°	279.6	317.4	350.8	378.1	399.1	414.5	423.1	425.8
125°	269.1	303.4	332.7	357.7	377.0	389.6	397.9	400.7
127.5°	258.7	289.8	317.4	340.4	357.3	369.2	376.4	378.5
130°	252.1	280.8	307.1	329.0	345.3	356.7	363.4	366.0
132.5°	245.7	272.2	296.4	317.1	333.1	344.4	350.5	353.0
135°	236.8	258.7	280.8	299.4	313.7	324.7	330.7	332.1
137.5°	229.7	248.1	265.5	281.7	294.8	304.3	309.5	311.5
140°	225.1	241.1	256.5	271.1	281.7	290.4	295.4	297.4
142.5°	221.4	235.0	248.2	260.4	270.5	278.4	282.9	283.2
145°	216.1	227.2	237.4	247.1	255.1	260.8	264.1	265.0
147.5°	212.1	220.7	228.8	235.8	242.4	246.9	249.2	249.9
150°	209.2	216.5	223.5	229.4	234.4	238.5	240.4	240.8
152.5°	206.2	213.0	219.0	224.1	228.1	231.5	233.0	233.1
155°	202.2	207.5	212.4	216.1	219.8	222.2	223.5	222.8
157.5°	197.5	201.9	206.0	209.0	211.5	213.5	214.1	214.1
160°	194.4	198.1	201.8	204.2	206.5	208.1	208.5	208.5
162.5°	191.5	194.7	197.8	199.6	202.0	203.1	203.4	203.1
165°	187.2	189.5	191.8	193.1	194.4	195.9	195.9	195.5
167.5°	182.9	184.7	186.3	187.6	188.1	188.9	188.8	188.4
170°	180.9	181.8	183.1	183.8	184.2	185.1	184.8	184.2
172.5°	178.4	179.2	180.2	180.6	181.0	181.4	181.1	180.7
175°	175.9	176.2	176.5	176.8	176.8	177.2	176.8	176.2
177.5°	174.0	174.0	174.3	174.3	174.3	174.3	174.0	173.4
180°	173.1	173.1	173.1	173.1	173.1	173.1	173.1	173.1

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