

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: P331425-927

Luminaire Tested: **SA2XXDIP-C1005D330U927-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331425-927
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-C1005D330U927-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4210.0 lumens
Efficiency: N/A
Efficacy: 84.5 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: Semi-Direct

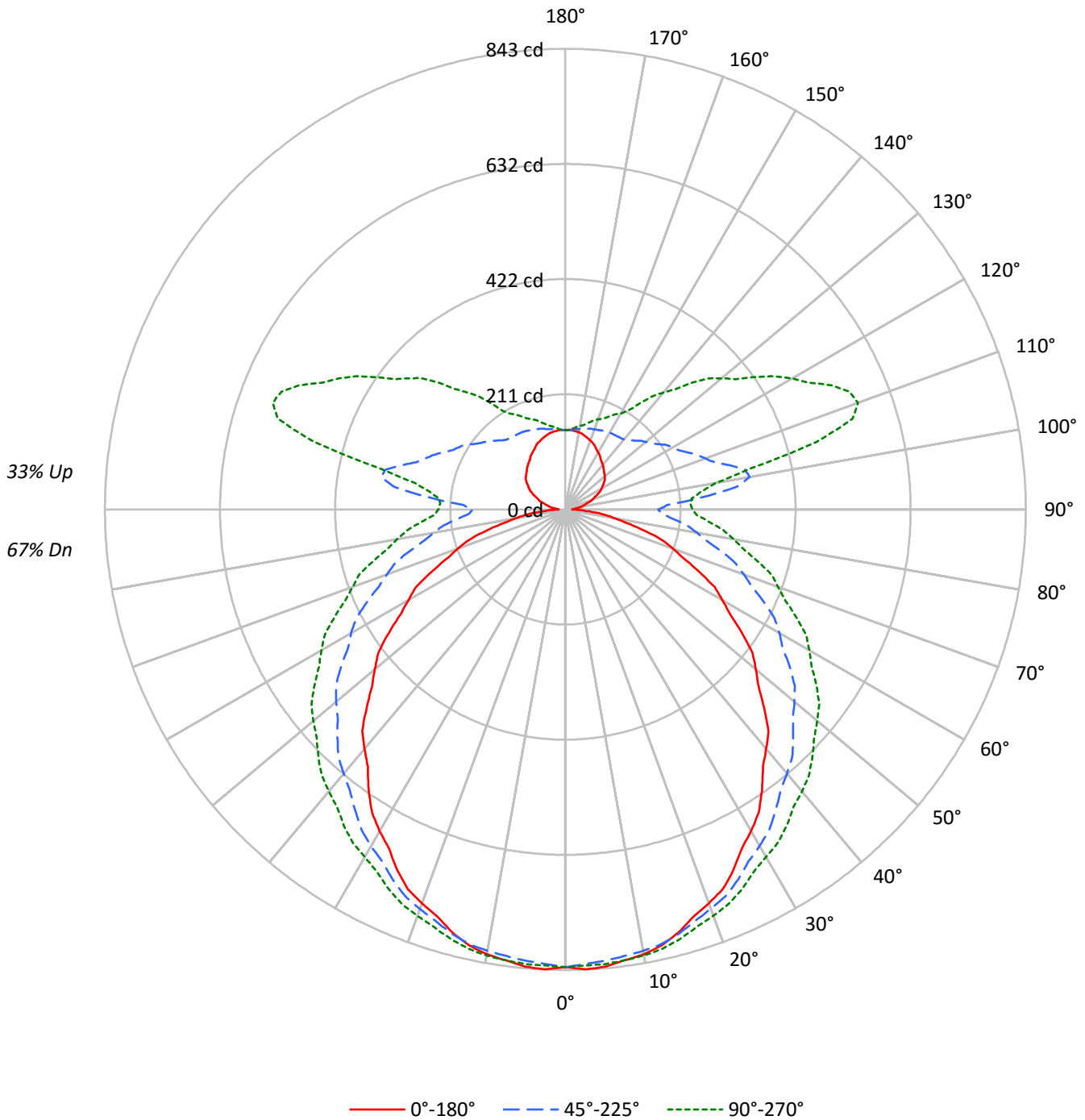
Input Watts (W): 49.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67				
1	100	94	90	85	94	89	85	81	79	75	72	69	67	64	61	59	57	53				
2	90	81	74	68	84	77	70	65	68	63	58	60	56	52	52	49	46	43				
3	82	71	62	56	76	67	59	53	59	53	48	52	47	43	46	42	39	35				
4	74	62	53	47	70	59	51	45	52	46	41	46	41	37	40	36	33	30				
5	68	55	46	40	64	52	44	38	47	40	35	41	36	31	36	32	28	25				
6	63	50	41	34	59	47	39	33	42	35	30	37	32	27	33	28	25	22				
7	58	45	36	30	54	42	34	29	38	31	26	34	28	24	30	25	22	19				
8	54	41	32	27	50	39	31	25	35	28	23	31	25	21	27	23	19	17				
9	50	37	29	24	47	35	28	23	32	25	21	28	23	19	25	21	17	15				
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13525	13525	13525
5°	13591	13020	12971
10°	13506	12635	12493
15°	13320	12228	11990
20°	13085	11791	11506
25°	12852	11370	11066
30°	12525	10939	10626
35°	12192	10521	10314
40°	11845	10165	10004
45°	11515	9846	9739
50°	11159	9559	9477
55°	10787	9249	9211
60°	10329	8927	8928
65°	9856	8551	8595
70°	9323	8147	8233
75°	8642	7750	7901
80°	7567	7345	7563
85°	6539	6995	7303



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.4	1.9
10°-20°	227.6	5.4
20°-30°	344.9	8.2
30°-40°	420.1	10.0
40°-50°	452.0	10.7
50°-60°	438.9	10.4
60°-70°	383.2	9.1
70°-80°	295.0	7.0
80°-90°	199.3	4.7
90°-100°	194.6	4.6
100°-110°	297.1	7.1
110°-120°	275.6	6.5
120°-130°	209.4	5.0
130°-140°	154.1	3.7
140°-150°	107.5	2.6
150°-160°	73.7	1.7
160°-170°	43.4	1.0
170°-180°	14.1	0.3
0°-30°	651.9	15.5
0°-40°	1072.0	25.5
0°-60°	1962.9	46.6
0°-90°	2840.5	67.5
90°-120°	767.3	18.2
90°-150°	1238.3	29.4
90°-180°	1369.0	32.5
0°-180°	4210.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	838	838	838	838	838	
5°	840	836	829	836	835	80
15°	801	804	804	814	813	226
25°	728	737	748	762	766	335
35°	628	648	671	697	706	392
45°	515	548	590	626	640	397
55°	395	439	501	544	561	353
65°	270	330	401	449	466	268
75°	149	218	295	345	363	158
85°	44	119	197	246	265	47
90°	12	87	170	216	233	9
95°	20	92	249	225	232	18
105°	40	94	312	516	476	43
115°	65	96	246	466	538	64
125°	86	104	208	363	422	77
135°	100	120	178	282	328	77
145°	112	129	164	211	236	71
155°	128	138	159	180	187	59
165°	139	144	153	162	164	39
175°	145	145	147	148	148	14
180°	146	146	146	146	146	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	842.6	841.9	841.2	840.6	840.0	838.8	837.3	835.8	834.3	832.8	833.9
5°	840.1	839.3	838.5	837.7	836.9	835.7	834.1	832.4	830.8	829.2	830.8
7.5°	832.6	832.0	831.5	831.0	830.4	829.6	828.3	827.0	825.9	824.6	826.5
10°	826.8	826.2	825.7	825.1	824.6	823.9	823.2	822.3	821.5	820.7	822.8
12.5°	817.1	817.1	817.3	817.4	817.5	817.2	816.7	816.0	815.5	814.8	817.1
15°	801.3	801.8	802.3	802.9	803.4	803.7	803.7	803.7	803.7	803.7	806.1
17.5°	780.9	782.0	783.2	784.3	785.4	786.4	787.3	788.1	789.0	789.9	792.4
20°	767.3	768.7	770.0	771.3	772.7	773.9	775.0	776.0	777.1	778.2	781.2
22.5°	752.7	754.2	755.8	757.4	759.0	760.5	762.0	763.5	765.0	766.5	769.5
25°	728.4	730.3	732.2	734.1	736.0	738.2	740.5	743.0	745.4	747.8	751.1
27.5°	699.3	702.3	705.4	708.5	711.6	714.5	717.4	720.3	723.1	726.0	730.1
30°	679.9	683.3	686.9	690.4	693.9	697.4	700.9	704.4	707.9	711.5	715.7
32.5°	658.5	662.4	666.4	670.3	674.2	678.3	682.5	686.6	690.8	694.9	699.9
35°	627.6	632.2	636.8	641.4	646.0	650.9	656.0	661.1	666.2	671.4	677.3
37.5°	594.1	599.4	604.8	610.0	615.3	621.2	627.9	634.5	641.2	647.8	654.4
40°	571.8	577.7	583.7	589.6	595.6	602.1	609.4	616.7	624.0	631.3	638.3
42.5°	550.5	556.3	562.3	568.2	574.2	581.3	589.7	598.1	606.4	614.8	622.4
45°	514.8	522.0	529.3	536.6	543.9	552.2	561.7	571.2	580.6	590.0	598.4
47.5°	479.6	487.5	495.4	503.4	511.3	520.8	531.9	542.9	554.0	565.0	573.8
50°	455.3	463.7	472.0	480.4	488.7	499.0	511.1	523.2	535.4	547.6	556.7
52.5°	432.0	440.8	449.6	458.4	467.1	477.9	490.7	503.5	516.3	529.1	538.4
55°	394.6	404.3	414.0	423.7	433.4	445.3	459.3	473.3	487.4	501.4	511.1
57.5°	357.7	368.6	379.5	390.5	401.5	414.1	428.4	442.7	457.0	471.3	481.7
60°	331.4	343.0	354.7	366.2	377.9	391.3	406.7	422.1	437.4	452.8	463.1
62.5°	308.2	320.1	332.2	344.2	356.2	369.9	385.3	400.7	416.1	431.5	442.4
65°	269.5	282.7	296.0	309.2	322.4	337.0	352.9	368.8	384.7	400.6	411.7
67.5°	234.1	247.9	261.7	275.5	289.3	304.4	320.7	337.0	353.2	369.6	380.7
70°	208.8	222.8	236.9	250.9	264.9	280.3	297.1	313.8	330.5	347.2	358.8
72.5°	185.5	199.9	214.4	228.9	243.4	259.0	276.0	292.9	309.9	326.9	338.2
75°	149.3	164.5	179.5	194.6	209.8	225.9	243.2	260.5	277.7	295.0	306.6
77.5°	114.4	130.2	146.0	161.8	177.6	194.2	211.8	229.3	246.8	264.4	276.0
80°	91.0	107.5	124.0	140.5	156.9	173.9	191.4	209.0	226.5	244.0	255.3
82.5°	71.6	87.9	104.1	120.3	136.6	153.6	171.3	189.1	206.8	224.6	235.9
85°	43.7	60.4	77.2	93.9	110.6	127.6	144.9	162.2	179.4	196.7	208.0
87.5°	23.8	40.1	56.4	72.6	88.8	105.6	123.2	140.9	158.4	175.8	186.7
90°	12.4	28.9	45.7	61.9	78.1	95.4	114.1	133.2	152.3	169.8	180.3
92.5°	14.6	30.7	47.2	63.1	79.5	97.8	120.7	146.2	170.8	187.9	192.8
95°	19.5	33.3	48.8	64.0	81.1	102.3	131.3	171.9	220.5	249.3	245.9
97.5°	24.5	37.2	51.5	66.5	83.0	104.0	135.7	185.2	254.7	316.5	335.6
100°	30.0	40.9	53.4	67.8	83.4	103.8	133.7	183.0	258.6	342.5	392.8
102.5°	34.2	44.0	55.6	69.2	84.1	103.9	132.3	177.3	248.0	336.8	410.0
105°	40.2	49.2	58.9	71.0	84.9	103.7	130.9	169.8	230.0	311.8	395.7
107.5°	48.0	55.2	63.4	73.5	85.9	103.5	129.8	164.9	216.6	286.0	360.8
110°	52.4	58.9	66.1	75.1	86.3	103.8	129.3	162.6	210.0	272.5	339.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	57.4	63.0	69.5	77.4	87.6	104.5	128.9	160.5	204.1	260.8	321.5
115°	65.0	69.4	74.1	80.4	89.0	104.0	128.3	157.4	196.7	246.4	298.7
117.5°	71.8	74.9	78.4	83.3	90.7	105.1	127.5	154.7	189.7	233.8	280.3
120°	76.7	78.9	81.7	85.2	91.9	105.7	127.4	153.3	185.7	226.4	269.5
122.5°	81.4	82.7	84.8	88.0	94.0	107.4	127.8	151.9	182.0	219.7	259.7
125°	86.4	87.2	88.9	92.3	97.8	110.0	128.7	150.0	175.9	208.1	244.2
127.5°	91.3	92.2	94.3	97.7	102.7	114.2	130.9	149.2	171.3	198.4	229.8
130°	94.3	95.1	97.6	101.2	106.6	117.2	132.6	148.9	168.6	192.1	220.5
132.5°	96.9	98.0	100.8	104.6	110.2	120.1	133.8	148.5	165.8	186.1	211.7
135°	99.7	100.8	104.3	108.4	114.9	124.1	135.7	148.2	162.1	178.2	199.9
137.5°	103.5	104.8	108.1	112.6	118.9	126.7	136.7	147.1	158.4	171.1	189.5
140°	106.5	107.3	110.4	114.6	120.5	127.9	136.8	146.1	156.1	167.0	183.4
142.5°	109.4	110.0	112.9	117.1	122.7	129.4	137.8	146.3	155.3	165.1	179.0
145°	112.5	113.7	116.5	120.6	126.3	132.4	140.0	147.8	155.6	164.0	174.6
147.5°	117.2	118.0	120.7	124.6	129.3	134.8	141.9	148.8	155.8	163.0	171.0
150°	120.3	121.2	123.4	127.1	131.3	136.3	142.8	149.2	155.6	162.3	169.1
152.5°	123.5	123.9	126.1	129.3	133.3	137.8	143.6	149.4	155.2	161.2	167.5
155°	127.9	128.2	129.8	132.9	136.0	140.2	145.0	149.7	154.5	159.2	164.6
157.5°	131.6	131.9	133.2	135.9	138.4	141.9	145.9	149.7	153.2	157.2	161.8
160°	134.0	134.4	135.5	137.7	140.0	143.1	146.4	149.7	152.6	155.9	159.8
162.5°	136.6	136.3	137.5	139.3	141.3	143.7	146.6	149.5	151.9	154.8	158.0
165°	139.4	139.1	139.7	141.3	142.8	144.4	146.9	148.9	150.6	152.6	155.0
167.5°	141.7	141.4	141.9	143.0	144.0	145.0	146.9	148.5	149.3	150.6	152.2
170°	143.3	142.8	143.1	143.9	144.4	145.3	146.6	148.1	148.6	149.5	150.6
172.5°	144.2	143.9	143.7	144.6	144.9	145.5	146.5	147.4	147.7	148.1	149.0
175°	145.3	145.0	144.7	145.3	145.3	145.5	146.1	146.6	146.4	146.6	146.9
177.5°	145.8	145.3	145.1	145.5	145.5	145.5	145.8	146.2	145.8	145.5	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	837.7	837.7	837.7	837.7	837.7	837.7	837.7	837.7
2.5°	835.0	836.1	837.2	837.5	837.0	836.6	836.1	835.8
5°	832.4	834.1	835.7	836.3	836.1	835.8	835.5	835.3
7.5°	828.5	830.4	832.3	833.2	832.9	832.7	832.3	832.1
10°	825.0	827.2	829.3	830.3	830.0	829.7	829.5	829.2
12.5°	819.2	821.3	823.5	824.4	824.2	823.9	823.6	823.4
15°	808.6	811.0	813.4	814.5	814.2	814.0	813.7	813.4
17.5°	795.0	797.5	800.0	801.3	801.3	801.3	801.3	801.3
20°	784.1	787.1	790.0	791.5	791.5	791.5	791.5	791.5
22.5°	772.5	775.5	778.4	780.1	780.5	781.0	781.4	781.9
25°	754.3	757.6	760.8	762.8	763.7	764.5	765.2	766.0
27.5°	734.2	738.3	742.4	744.7	745.4	745.9	746.6	747.1
30°	720.1	724.4	728.7	731.3	732.1	732.8	733.7	734.5
32.5°	704.9	709.8	714.8	718.0	719.5	720.9	722.4	723.8
35°	683.3	689.2	695.1	699.0	700.9	702.8	704.7	706.5
37.5°	661.0	667.6	674.1	678.4	680.4	682.5	684.4	686.4
40°	645.3	652.4	659.3	664.1	666.5	668.9	671.4	673.8
42.5°	630.1	637.8	645.5	650.5	652.9	655.4	657.7	660.2
45°	606.7	615.1	623.4	629.0	631.7	634.4	637.1	639.8
47.5°	582.5	591.2	600.0	605.9	608.8	611.8	614.7	617.7
50°	565.9	575.0	584.2	590.3	593.3	596.2	599.2	602.1
52.5°	547.9	557.2	566.6	572.9	576.1	579.3	582.5	585.7
55°	520.9	530.5	540.3	546.8	550.3	553.9	557.4	560.9
57.5°	492.3	502.7	513.2	520.1	523.7	527.3	530.8	534.4
60°	473.3	483.6	493.8	500.9	504.6	508.4	512.2	515.9
62.5°	453.3	464.1	475.1	482.3	485.8	489.4	493.0	496.5
65°	422.8	433.8	444.9	452.2	455.7	459.1	462.7	466.2
67.5°	391.9	403.1	414.2	421.7	425.3	429.0	432.7	436.3
70°	370.4	382.0	393.6	401.0	404.3	407.5	410.7	414.0
72.5°	349.6	361.0	372.3	380.0	383.9	387.8	391.7	395.5
75°	318.2	329.8	341.4	349.0	352.4	356.0	359.5	363.0
77.5°	287.5	299.0	310.6	318.3	322.0	325.8	329.6	333.4
80°	266.6	278.1	289.4	296.9	300.7	304.4	308.2	312.0
82.5°	247.2	258.6	269.9	277.3	280.9	284.5	288.0	291.6
85°	219.4	230.7	242.0	249.5	253.3	257.1	260.9	264.7
87.5°	197.6	208.6	219.7	227.0	230.4	233.9	237.3	240.7
90°	190.8	201.1	212.4	219.7	222.9	226.2	229.4	232.6
92.5°	197.1	204.1	212.4	217.5	220.6	222.9	226.4	229.2
95°	233.5	226.6	225.1	225.7	225.3	226.3	228.7	232.2
97.5°	320.3	299.1	278.8	265.2	255.0	251.3	250.4	251.2
100°	396.9	372.2	343.8	316.4	296.2	287.1	281.9	279.9
102.5°	445.0	446.9	428.6	399.1	376.8	359.3	352.1	348.2
105°	463.3	504.5	517.5	514.5	500.1	485.7	476.7	475.7
107.5°	431.6	488.3	526.5	546.1	551.2	553.3	553.8	551.5
110°	406.8	465.5	510.0	538.8	553.7	562.1	567.5	570.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	383.4	440.1	487.0	519.2	538.8	550.7	558.5	562.9
115°	353.0	404.2	448.9	483.3	506.1	522.0	532.2	537.7
117.5°	327.5	373.3	414.5	446.9	469.9	486.3	496.7	501.6
120°	313.1	355.5	392.7	423.3	445.9	462.1	473.2	478.9
122.5°	300.9	340.0	375.4	403.4	423.5	438.9	448.7	453.6
125°	282.0	318.1	350.1	375.9	394.5	407.6	417.0	421.7
127.5°	263.4	296.2	326.1	350.0	366.5	378.9	387.3	391.5
130°	251.5	282.1	310.7	333.4	349.4	361.0	368.8	373.2
132.5°	239.9	268.5	295.0	316.6	332.2	343.9	351.3	355.4
135°	223.7	247.8	272.0	291.5	305.8	317.1	324.3	327.6
137.5°	209.3	229.7	249.3	266.3	279.2	289.0	295.2	298.7
140°	200.3	218.0	235.2	250.5	261.1	270.0	275.8	279.1
142.5°	193.5	208.3	222.8	235.6	245.5	253.5	258.6	260.4
145°	184.9	195.7	206.0	215.6	223.7	229.8	233.9	236.1
147.5°	178.6	186.2	193.1	199.6	205.7	210.2	212.7	213.9
150°	175.8	182.0	187.8	192.8	197.0	200.4	202.1	202.4
152.5°	173.3	179.0	184.0	188.4	191.7	194.6	195.8	195.9
155°	169.9	174.4	178.6	181.6	184.7	186.7	187.8	187.3
157.5°	166.0	169.7	173.2	175.6	177.8	179.4	179.9	179.9
160°	163.4	166.5	169.6	171.6	173.6	174.9	175.2	175.2
162.5°	161.0	163.7	166.3	167.8	169.8	170.7	171.0	170.7
165°	157.3	159.2	161.2	162.3	163.4	164.6	164.6	164.3
167.5°	153.8	155.3	156.6	157.6	158.1	158.8	158.7	158.4
170°	152.0	152.8	153.9	154.5	154.8	155.6	155.3	154.8
172.5°	150.0	150.6	151.5	151.8	152.1	152.5	152.2	151.9
175°	147.8	148.1	148.4	148.6	148.6	148.9	148.6	148.1
177.5°	146.2	146.2	146.5	146.5	146.5	146.5	146.2	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5

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