

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: P331380-830

Luminaire Tested: **SA2XXDIP-C865D330U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331380-830
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-C865D330U830-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 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: 4499.0 lumens
Efficiency: N/A
Efficacy: 103.4 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: Semi-Direct

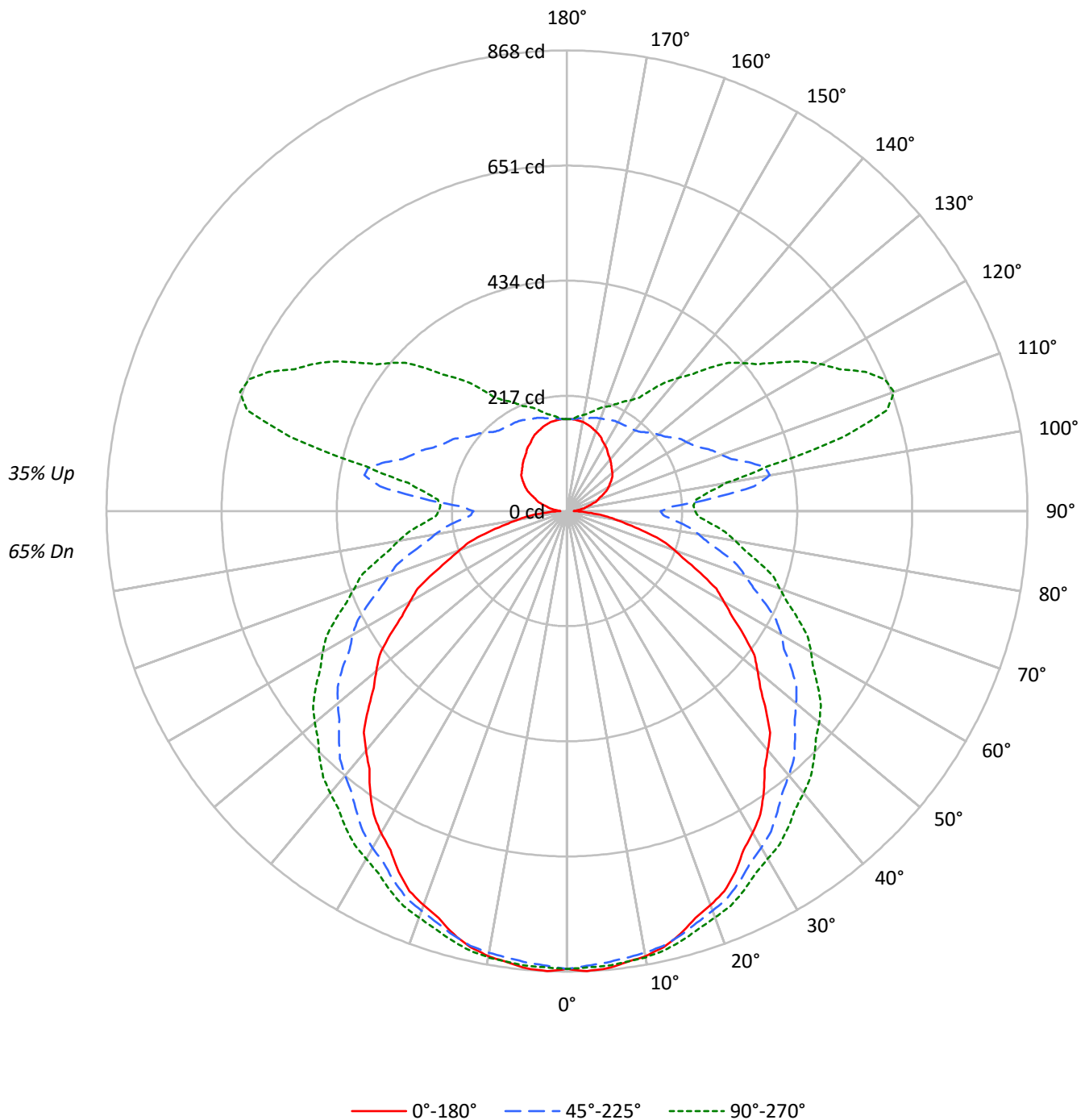
Input Watts (W): 43.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70
1	99	94	89	85	93	88	84	80	78	74	71	68	65	63	59	57	55
2	90	81	74	68	84	76	70	64	67	62	58	58	55	51	51	48	45
3	81	71	62	56	76	66	59	53	58	52	48	51	46	42	44	41	37
4	74	62	53	47	69	58	51	44	52	45	40	45	40	36	39	35	32
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24
7	58	45	36	30	54	42	34	29	37	31	26	33	28	24	29	24	21
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19
9	50	37	29	24	47	35	28	23	31	25	21	28	22	19	24	20	17
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	1.8
10°-20°	234.5	5.2
20°-30°	355.3	7.9
30°-40°	432.8	9.6
40°-50°	465.6	10.3
50°-60°	452.2	10.1
60°-70°	394.8	8.8
70°-80°	304.0	6.8
80°-90°	205.6	4.6
90°-100°	209.8	4.7
100°-110°	337.6	7.5
110°-120°	317.4	7.1
120°-130°	243.3	5.4
130°-140°	180.9	4.0
140°-150°	127.5	2.8
150°-160°	87.6	1.9
160°-170°	51.6	1.1
170°-180°	16.8	0.4
0°-30°	671.6	14.9
0°-40°	1104.4	24.5
0°-60°	2022.2	44.9
0°-90°	2926.5	65.0
90°-120°	864.8	19.2
90°-150°	1416.4	31.5
90°-180°	1572.0	34.9
0°-180°	4499.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	13	90	176	224	241	9
95°	22	98	274	239	244	20
105°	47	105	354	591	540	50
115°	77	112	282	537	620	76
125°	102	123	241	420	488	91
135°	118	142	210	329	382	92
145°	134	154	195	250	279	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°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.6	41.4	58.2	74.8	91.6	109.0	127.1	145.3	163.5	181.3	192.7
90°	12.8	30.0	47.4	64.2	81.0	99.0	118.4	138.6	158.3	176.4	187.2
92.5°	15.6	32.3	49.8	66.3	83.5	102.7	127.3	155.0	181.6	199.3	203.6
95°	21.7	36.1	52.4	68.5	86.9	109.8	141.8	187.4	242.7	274.4	268.6
97.5°	27.7	41.2	56.3	72.5	90.2	113.1	148.4	204.7	284.9	355.9	377.1
100°	34.4	45.7	59.0	74.6	91.5	113.8	146.9	203.2	290.7	388.1	446.4
102.5°	39.5	49.7	62.0	76.7	93.1	114.7	146.1	197.4	279.1	382.5	468.0
105°	46.8	56.3	66.6	79.7	95.1	115.6	145.8	189.9	259.3	354.3	452.6
107.5°	56.3	63.7	72.5	83.5	97.2	116.8	145.8	185.5	244.7	325.2	412.7
110°	61.6	68.5	76.1	86.0	98.5	117.7	146.0	183.6	237.9	310.1	388.0

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	67.5	73.5	80.4	89.2	100.6	119.2	146.4	181.9	231.8	297.3	368.2
115°	76.6	81.3	86.3	93.4	103.1	119.9	146.8	179.6	224.4	281.5	342.5
117.5°	84.8	88.1	92.2	97.6	106.0	122.2	147.0	177.6	217.4	268.2	322.2
120°	90.7	93.1	96.2	100.4	108.1	123.6	147.7	176.7	213.5	260.2	310.4
122.5°	96.2	97.7	100.2	104.0	111.0	126.1	148.7	175.8	210.0	253.2	299.5
125°	102.5	103.4	105.4	109.4	116.0	129.8	150.7	174.6	204.2	241.0	282.9
127.5°	108.3	109.3	111.9	115.9	122.1	135.2	153.9	174.6	199.7	230.8	267.2
130°	111.7	112.8	115.8	120.3	126.6	138.7	156.2	174.7	197.2	224.3	256.9
132.5°	114.9	116.2	119.6	124.2	130.8	142.3	158.0	174.8	194.6	218.1	247.5
135°	118.5	119.8	123.9	128.8	136.5	147.1	160.6	175.0	191.1	209.9	234.7
137.5°	123.0	124.5	128.5	133.7	141.3	150.5	162.3	174.4	187.8	202.6	223.7
140°	126.5	127.5	131.2	136.3	143.4	152.1	162.7	173.5	185.4	198.3	217.1
142.5°	130.0	130.7	134.2	139.2	146.0	154.0	163.9	174.1	184.6	196.3	212.4
145°	133.8	135.3	138.6	143.5	150.2	157.5	166.5	175.9	185.1	195.1	207.5
147.5°	139.5	140.4	143.6	148.3	153.8	160.3	168.8	177.0	185.4	194.0	203.5
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°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	203.9	215.1	226.6	234.1	237.7	241.2	244.8	248.4
90°	198.0	208.4	220.2	227.8	231.1	234.4	237.8	241.1
92.5°	206.9	213.7	221.8	226.9	229.9	232.1	235.7	238.6
95°	252.2	242.4	239.0	238.7	237.6	238.4	240.6	244.3
97.5°	357.2	330.5	304.7	287.5	274.8	269.9	268.3	268.8
100°	449.7	418.7	383.3	349.7	325.1	313.9	307.3	304.3
102.5°	508.0	508.8	485.5	449.3	422.4	401.0	392.0	386.9
105°	531.7	579.0	593.0	588.4	570.9	553.3	542.1	540.5
107.5°	495.6	561.6	605.6	627.8	633.5	635.5	635.7	632.5
110°	467.1	535.6	587.1	620.4	637.8	647.1	653.2	655.9

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	440.4	506.5	560.9	598.2	621.2	634.8	643.6	648.4
115°	405.8	465.4	517.4	557.3	584.1	602.5	614.2	620.2
117.5°	377.0	430.3	478.1	515.8	542.7	561.8	573.7	579.1
120°	361.1	410.2	453.3	489.0	515.4	534.0	546.8	553.2
122.5°	347.4	392.9	433.9	466.3	489.8	507.8	519.1	524.4
125°	326.6	368.4	405.2	435.2	457.0	472.2	483.1	488.1
127.5°	306.0	344.0	378.5	406.2	425.6	439.9	449.5	454.0
130°	292.9	328.3	361.3	387.7	406.2	419.8	428.7	433.6
132.5°	280.1	313.1	343.7	368.7	386.9	400.5	408.9	413.5
135°	262.2	290.0	317.8	340.5	357.0	370.3	378.5	382.0
137.5°	246.4	269.8	292.5	312.2	327.2	338.5	345.6	349.5
140°	236.5	256.9	276.7	294.5	306.8	317.1	323.8	327.4
142.5°	229.0	246.2	262.9	277.7	289.3	298.5	304.4	306.3
145°	219.4	232.1	244.1	255.3	264.7	271.7	276.4	278.8
147.5°	212.5	221.4	229.7	237.1	244.4	249.7	252.6	253.8
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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