

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: P331668-830

Luminaire Tested: **SA2XXRDIP-C485D925U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331668-830
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: SA2XXRDIP-C485D925U830-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

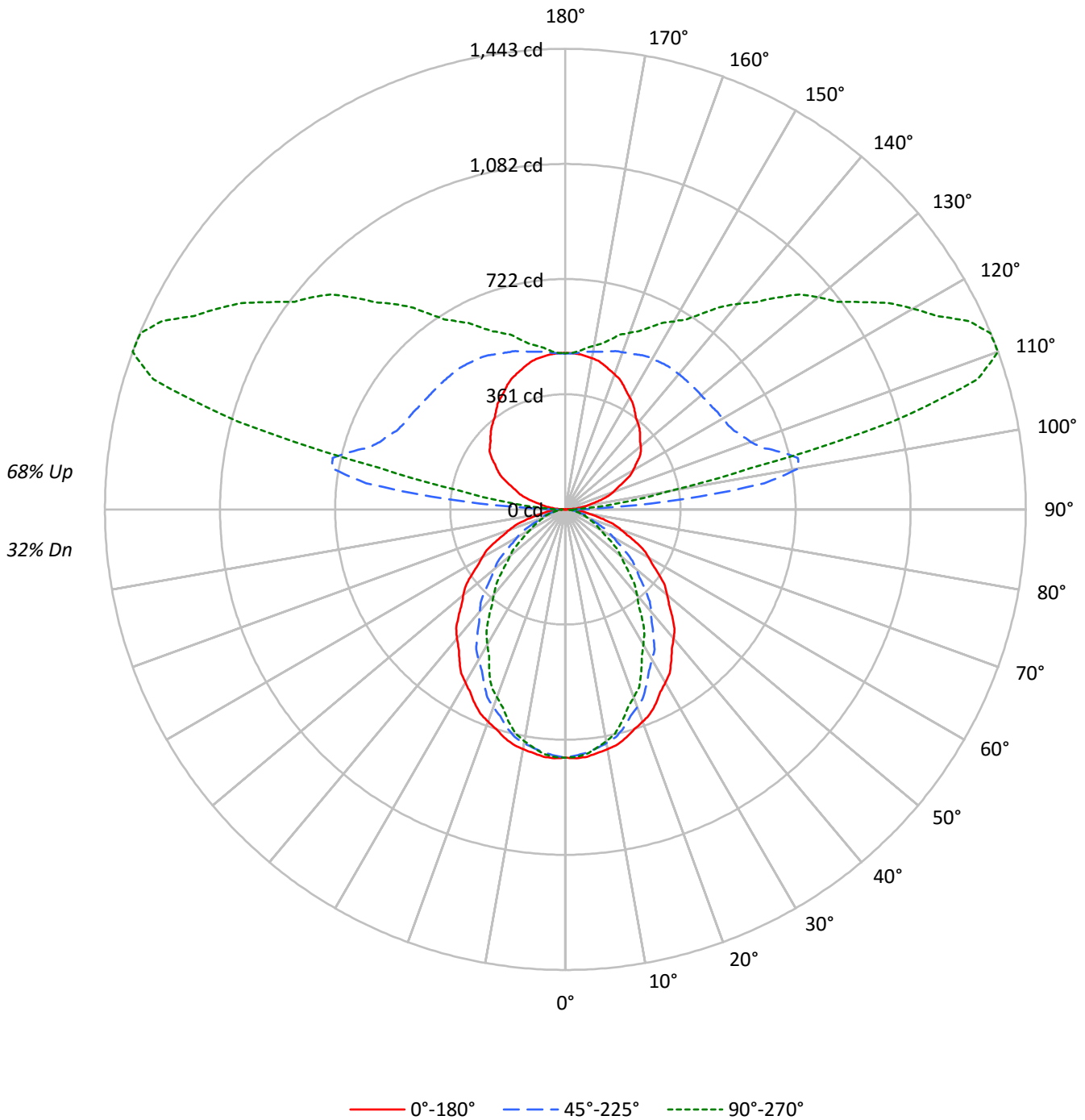
Lumens per Lamp: N/A
Luminaire Lumens: 5008.1 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 44.5
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	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	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40	32				32
1	94	90	86	83	85	81	78	75	65	63	61	49	48	47	35	35	34	28				28
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	30	29	24				24
3	78	70	63	57	70	63	57	52	50	46	43	39	36	34	28	27	25	20				20
4	72	62	54	48	64	56	49	44	45	40	37	35	32	29	25	23	22	18				18
5	66	55	47	42	59	50	43	38	40	35	32	31	28	25	23	21	19	16				16
6	61	49	42	36	55	45	38	33	36	31	28	28	25	22	21	19	17	14				14
7	56	44	37	32	51	40	34	29	33	28	24	26	22	20	19	17	15	12				12
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	15	14	11				11
9	48	37	30	25	44	34	27	23	27	23	19	22	18	16	16	14	12	10				10
10	45	34	27	22	41	31	25	21	25	21	17	20	17	14	15	13	11	9				9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12558	12558	12558
5°	12606	12402	12470
10°	12511	12198	12095
15°	12366	11836	11497
20°	12167	11320	10753
25°	11965	10735	10033
30°	11680	10133	9107
35°	11404	9477	8296
40°	11126	8800	7358
45°	10803	8035	6510
50°	10467	7267	5674
55°	10125	6441	4873
60°	9726	5570	4046
65°	9280	4676	3683
70°	8738	3852	3389
75°	8079	3512	3163
80°	7132	3133	2882
85°	5613	2482	2482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.8	1.5
10°-20°	199.9	4.0
20°-30°	280.7	5.6
30°-40°	306.1	6.1
40°-50°	281.5	5.6
50°-60°	221.1	4.4
60°-70°	144.1	2.9
70°-80°	74.3	1.5
80°-90°	23.7	0.5
90°-100°	195.6	3.9
100°-110°	663.7	13.3
110°-120°	705.1	14.1
120°-130°	580.4	11.6
130°-140°	466.1	9.3
140°-150°	352.2	7.0
150°-160°	247.5	4.9
160°-170°	145.7	2.9
170°-180°	47.4	0.9
0°-30°	553.4	11.1
0°-40°	859.6	17.2
0°-60°	1362.1	27.2
0°-90°	1604.2	32.0
90°-120°	1564.4	31.2
90°-150°	2963.2	59.2
90°-180°	3404.0	68.0
0°-180°	5008.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	778	778	778	778	778	
5°	778	774	765	771	769	74
15°	740	731	708	695	688	208
25°	672	648	603	575	563	309
35°	579	541	481	438	421	362
45°	473	424	352	304	285	365
55°	360	304	229	188	173	321
65°	243	186	122	100	96	241
75°	130	82	56	52	51	137
85°	30	16	13	13	13	36
90°	1	13	32	31	31	3
95°	33	81	369	139	107	35
105°	115	173	697	1246	1060	122
115°	202	255	583	1204	1395	200
125°	282	334	561	975	1132	251
135°	331	395	554	819	938	256
145°	378	435	551	684	749	237
155°	430	464	535	605	629	198
165°	468	483	513	544	552	132
175°	488	489	493	499	498	46
180°	489	489	489	489	489	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	780.6	780.0	779.4	778.7	778.2	777.1	775.8	774.4	773.0	771.7	772.9
5°	777.8	777.0	776.3	775.5	774.7	773.3	771.3	769.2	767.2	765.2	766.6
7.5°	769.8	768.8	767.9	766.9	765.9	764.2	761.9	759.5	757.1	754.8	755.2
10°	763.1	762.0	760.8	759.8	758.7	756.6	753.5	750.3	747.2	744.0	743.6
12.5°	754.6	753.3	751.9	750.5	749.2	746.6	742.5	738.6	734.5	730.6	729.7
15°	739.8	738.1	736.4	734.6	732.9	729.4	724.1	718.8	713.5	708.1	705.2
17.5°	721.7	719.1	716.4	713.8	711.1	706.4	699.6	692.8	686.0	679.1	675.6
20°	708.1	705.0	701.9	698.8	695.6	690.1	682.3	674.5	666.7	658.8	655.0
22.5°	693.5	690.0	686.5	683.0	679.5	673.4	664.5	655.6	646.9	638.0	633.0
25°	671.6	666.6	661.6	656.5	651.5	643.9	633.5	623.2	612.8	602.6	596.2
27.5°	645.1	639.6	634.1	628.8	623.3	614.7	603.1	591.4	579.9	568.2	560.7
30°	626.5	620.6	614.6	608.7	602.8	593.5	581.0	568.4	555.9	543.5	535.5
32.5°	608.5	601.5	594.6	587.7	580.7	570.8	558.1	545.3	532.5	519.8	510.7
35°	578.6	570.6	562.7	554.7	546.7	535.8	522.1	508.3	494.6	480.8	470.9
37.5°	548.7	540.0	531.2	522.5	513.8	502.0	487.4	472.7	458.0	443.4	432.4
40°	527.9	518.6	509.2	499.8	490.4	478.2	463.0	447.8	432.6	417.5	406.3
42.5°	506.5	496.6	486.7	476.9	467.0	454.2	438.6	422.8	407.2	391.5	380.0
45°	473.1	462.6	452.0	441.6	431.1	417.6	401.2	384.8	368.3	351.9	340.8
47.5°	440.4	429.2	418.2	407.1	396.0	381.9	365.0	348.0	331.0	314.1	303.0
50°	416.7	405.6	394.5	383.4	372.3	358.2	340.9	323.8	306.5	289.3	278.5
52.5°	393.6	382.0	370.4	358.8	347.2	333.0	316.1	299.4	282.5	265.7	255.2
55°	359.7	347.5	335.3	323.1	310.9	296.3	279.5	262.6	245.6	228.8	219.4
57.5°	324.9	312.5	299.9	287.4	274.8	260.5	244.3	228.0	211.8	195.6	186.9
60°	301.2	288.8	276.3	263.7	251.2	237.0	220.8	204.7	188.6	172.5	164.5
62.5°	278.1	265.7	253.2	240.6	228.1	214.2	198.9	183.5	168.1	152.8	145.2
65°	242.9	230.2	217.5	204.8	192.2	178.8	164.8	150.6	136.6	122.4	117.2
67.5°	208.8	196.2	183.6	171.1	158.4	145.8	133.2	120.6	107.8	95.2	92.7
70°	185.1	173.0	160.7	148.5	136.3	124.8	114.0	103.2	92.5	81.6	80.1
72.5°	162.6	150.9	139.2	127.5	115.8	105.7	97.0	88.3	79.6	71.0	69.7
75°	129.5	118.6	107.6	96.7	85.7	77.6	72.3	66.9	61.6	56.3	55.2
77.5°	97.0	87.4	77.8	68.1	58.6	52.5	50.0	47.4	44.8	42.2	41.6
80°	76.7	68.7	60.8	52.8	44.8	40.1	38.5	36.9	35.3	33.7	33.2
82.5°	58.2	51.9	45.7	39.5	33.3	29.6	28.6	27.4	26.4	25.4	25.0
85°	30.3	27.0	23.7	20.5	17.2	15.3	14.8	14.3	13.9	13.4	13.4
87.5°	9.2	8.8	8.5	7.9	7.3	7.4	8.3	9.6	10.7	10.9	10.6
90°	0.9	3.8	7.5	9.4	11.3	14.1	18.9	25.4	31.0	32.0	31.0
92.5°	11.5	16.6	23.4	27.4	33.8	42.7	64.0	93.9	120.6	122.2	103.3
95°	32.9	36.7	46.1	54.6	69.7	92.2	135.4	217.3	326.4	368.7	322.6
97.5°	53.6	58.7	68.7	81.4	98.8	124.3	178.7	292.8	474.1	629.5	660.3
100°	72.4	75.2	83.7	98.8	117.6	143.9	193.8	308.6	511.7	743.1	878.6
102.5°	89.7	91.8	100.3	115.4	134.9	161.3	207.4	309.3	497.5	746.9	959.9
105°	114.8	118.6	125.1	139.2	159.9	186.2	230.5	314.1	469.4	697.0	947.3
107.5°	141.9	144.9	151.3	164.3	184.7	211.3	254.2	327.2	455.4	643.7	864.7
110°	159.9	163.7	169.3	181.5	201.3	228.6	269.9	337.7	452.5	618.0	812.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	176.4	180.2	186.6	198.1	217.1	245.2	285.0	349.0	453.2	601.4	776.7
115°	202.3	207.0	212.6	223.9	242.7	268.1	308.6	365.9	457.1	583.2	731.9
117.5°	228.9	232.7	238.4	248.4	266.4	292.8	330.2	384.0	463.9	574.4	703.6
120°	245.5	249.3	255.0	263.3	282.2	308.6	345.3	396.1	468.4	569.1	688.6
122.5°	261.4	264.3	269.9	279.2	298.0	325.1	359.5	406.5	473.7	566.1	675.8
125°	282.2	285.0	290.7	302.0	320.7	347.1	381.0	423.3	481.6	560.6	657.5
127.5°	298.8	302.6	310.4	322.8	340.9	368.0	401.0	438.9	489.7	557.4	640.6
130°	308.6	312.3	321.7	334.9	353.7	380.0	412.9	448.7	495.8	555.9	629.3
132.5°	317.5	322.1	332.2	346.2	365.7	392.1	423.5	458.5	501.7	555.2	620.3
135°	331.1	334.9	346.2	360.2	381.9	408.2	438.4	471.3	508.9	554.0	607.7
137.5°	343.9	348.5	359.7	374.8	396.2	420.7	450.4	481.1	515.3	553.8	598.8
140°	353.7	357.5	368.7	383.8	404.5	429.0	457.1	486.4	518.3	553.1	593.6
142.5°	363.4	366.5	377.0	392.1	412.0	435.0	462.4	490.9	520.6	553.1	588.3
145°	378.1	381.9	391.3	405.5	424.2	445.0	470.3	496.7	523.0	551.2	581.4
147.5°	394.0	396.8	405.8	418.8	434.4	452.9	476.7	499.9	523.8	547.9	574.2
150°	404.5	407.3	414.8	427.1	441.2	458.1	479.8	501.3	523.0	545.6	568.2
152.5°	415.0	416.3	423.9	434.6	448.0	463.4	482.8	502.1	521.5	541.9	562.9
155°	429.9	430.8	436.5	446.9	457.1	471.3	487.3	503.2	519.2	535.3	553.1
157.5°	442.3	443.3	447.8	456.8	465.1	476.9	490.5	503.2	514.9	528.5	543.9
160°	450.6	451.6	455.2	462.8	470.3	480.7	492.0	503.2	512.6	524.0	537.2
162.5°	458.8	458.3	462.0	468.1	474.9	483.0	492.8	502.5	510.4	520.2	531.1
165°	468.4	467.5	469.4	475.0	479.8	485.4	493.9	500.5	506.1	512.6	521.1
167.5°	476.4	475.2	476.9	480.5	483.9	487.5	493.7	499.2	501.7	506.1	511.3
170°	481.6	479.8	480.7	483.5	485.4	488.2	492.9	497.7	499.5	502.3	506.1
172.5°	484.7	483.5	483.0	485.8	486.9	489.0	492.2	495.4	496.5	497.9	500.9
175°	488.2	487.3	486.4	488.2	488.2	489.2	491.1	492.9	492.0	492.9	493.9
177.5°	489.9	488.4	487.7	489.2	489.2	489.2	489.9	491.4	489.9	489.2	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	774.1	775.4	776.7	777.1	776.9	776.7	776.4	776.2
5°	768.0	769.4	770.8	771.3	770.8	770.3	769.9	769.4
7.5°	755.5	755.9	756.4	756.2	755.4	754.5	753.8	752.9
10°	743.1	742.6	742.2	741.5	740.6	739.6	738.7	737.7
12.5°	728.9	728.0	727.2	725.9	724.3	722.8	721.2	719.7
15°	702.2	699.3	696.3	694.0	692.4	690.9	689.3	687.8
17.5°	672.0	668.5	665.0	661.9	659.2	656.5	653.8	651.1
20°	651.0	647.1	643.2	639.5	636.1	632.6	629.2	625.8
22.5°	627.9	622.9	617.9	614.1	611.5	609.0	606.4	603.8
25°	589.7	583.3	576.9	572.5	570.1	567.8	565.5	563.2
27.5°	553.3	545.7	538.3	532.7	529.0	525.3	521.5	517.8
30°	527.4	519.5	511.5	505.4	501.1	497.0	492.8	488.5
32.5°	501.5	492.5	483.3	476.8	472.9	468.9	464.9	460.9
35°	461.1	451.2	441.4	434.7	431.3	427.8	424.4	420.9
37.5°	421.6	410.8	399.9	392.5	388.6	384.7	380.7	376.7
40°	395.2	384.1	373.0	365.4	361.4	357.3	353.2	349.1
42.5°	368.5	357.0	345.6	337.9	333.9	330.0	326.0	322.1
45°	329.7	318.7	307.6	300.1	296.3	292.6	288.8	285.1
47.5°	292.0	281.0	269.9	262.7	259.3	255.9	252.4	249.0
50°	267.7	256.9	246.1	239.1	235.8	232.5	229.2	225.9
52.5°	244.8	234.4	223.9	217.3	214.2	211.2	208.1	205.1
55°	210.0	200.6	191.2	185.0	182.1	179.1	176.2	173.1
57.5°	178.3	169.8	161.2	155.6	153.1	150.6	148.1	145.5
60°	156.5	148.5	140.5	135.3	132.8	130.3	127.8	125.3
62.5°	137.5	130.0	122.3	117.8	116.3	114.8	113.3	111.8
65°	111.9	106.5	101.2	98.3	97.8	97.4	96.9	96.4
67.5°	90.3	87.8	85.4	84.0	83.4	82.9	82.5	81.9
70°	78.5	77.0	75.4	74.3	73.7	73.0	72.4	71.8
72.5°	68.3	67.0	65.7	64.8	64.5	64.1	63.7	63.3
75°	54.1	53.1	51.9	51.3	51.2	51.0	50.8	50.7
77.5°	41.0	40.3	39.8	39.3	39.0	38.8	38.5	38.3
80°	32.5	32.0	31.3	31.0	31.0	31.0	31.0	31.0
82.5°	24.6	24.2	23.8	23.7	23.7	23.7	23.7	23.7
85°	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
87.5°	10.3	9.8	10.0	10.2	10.2	10.2	10.2	10.2
90°	30.1	28.2	30.1	31.0	31.0	31.0	31.0	31.0
92.5°	82.0	70.4	62.5	56.6	55.9	52.9	53.6	52.1
95°	246.5	189.1	149.6	128.8	116.7	109.1	106.3	107.3
97.5°	575.1	470.5	368.7	300.9	255.9	232.7	219.0	211.1
100°	858.8	742.2	613.3	499.5	421.4	381.0	353.7	336.8
102.5°	1044.7	1018.4	924.2	803.5	718.7	649.6	615.6	592.7
105°	1142.9	1249.2	1261.5	1230.4	1172.1	1113.8	1073.3	1060.2
107.5°	1072.2	1232.3	1330.1	1375.6	1383.0	1379.8	1371.7	1354.2
110°	1011.3	1179.6	1300.0	1377.1	1417.6	1435.5	1444.0	1443.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	955.5	1117.2	1245.9	1334.3	1390.5	1420.4	1436.4	1441.5
115°	887.0	1031.9	1155.2	1252.1	1318.8	1362.1	1386.6	1395.1
117.5°	835.5	962.7	1074.4	1165.4	1233.4	1279.1	1305.0	1312.0
120°	809.9	926.6	1026.2	1111.9	1177.7	1221.9	1249.2	1258.7
122.5°	789.6	896.5	990.9	1068.3	1127.3	1170.7	1195.0	1203.0
125°	760.1	857.0	939.7	1010.3	1064.9	1100.6	1124.1	1131.6
127.5°	730.9	818.6	896.6	961.8	1009.4	1042.8	1063.2	1069.2
130°	712.1	793.0	867.3	929.4	975.5	1007.5	1026.2	1033.8
132.5°	694.0	768.9	837.2	895.5	940.8	972.9	990.1	996.9
135°	668.8	730.9	793.0	845.6	886.1	917.2	934.1	937.8
137.5°	648.7	700.6	749.9	795.8	832.7	859.4	874.3	880.0
140°	635.9	681.1	724.3	765.7	795.8	820.3	834.4	840.0
142.5°	625.4	663.7	701.0	735.7	764.2	786.5	799.0	800.1
145°	610.5	641.6	670.7	698.0	720.6	736.6	745.9	748.8
147.5°	599.0	623.5	646.2	666.2	684.9	697.6	704.0	705.7
150°	590.8	611.4	631.2	648.1	662.2	673.5	679.2	680.1
152.5°	582.5	601.6	618.4	633.1	644.1	653.9	658.1	658.3
155°	571.0	586.1	600.1	610.5	620.9	627.5	631.2	629.3
157.5°	557.6	570.2	582.1	590.2	597.5	602.9	604.6	604.6
160°	549.3	559.7	570.0	576.6	583.2	588.0	588.9	588.9
162.5°	541.1	549.9	558.7	563.8	570.4	573.6	574.6	573.8
165°	528.7	535.3	541.9	545.6	549.3	553.1	553.1	552.1
167.5°	516.8	521.9	526.4	529.8	531.5	533.6	533.4	532.3
170°	510.8	513.6	517.4	519.2	520.2	523.0	522.1	520.2
172.5°	504.0	506.1	509.1	510.2	511.1	512.5	511.5	510.4
175°	496.7	497.7	498.6	499.5	499.5	500.5	499.5	497.7
177.5°	491.4	491.4	492.2	492.2	492.2	492.2	491.4	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2

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