

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: P331326-935

Luminaire Tested: **SA2XXDIP-C485D1080U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331326-935
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-C485D1080U935-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

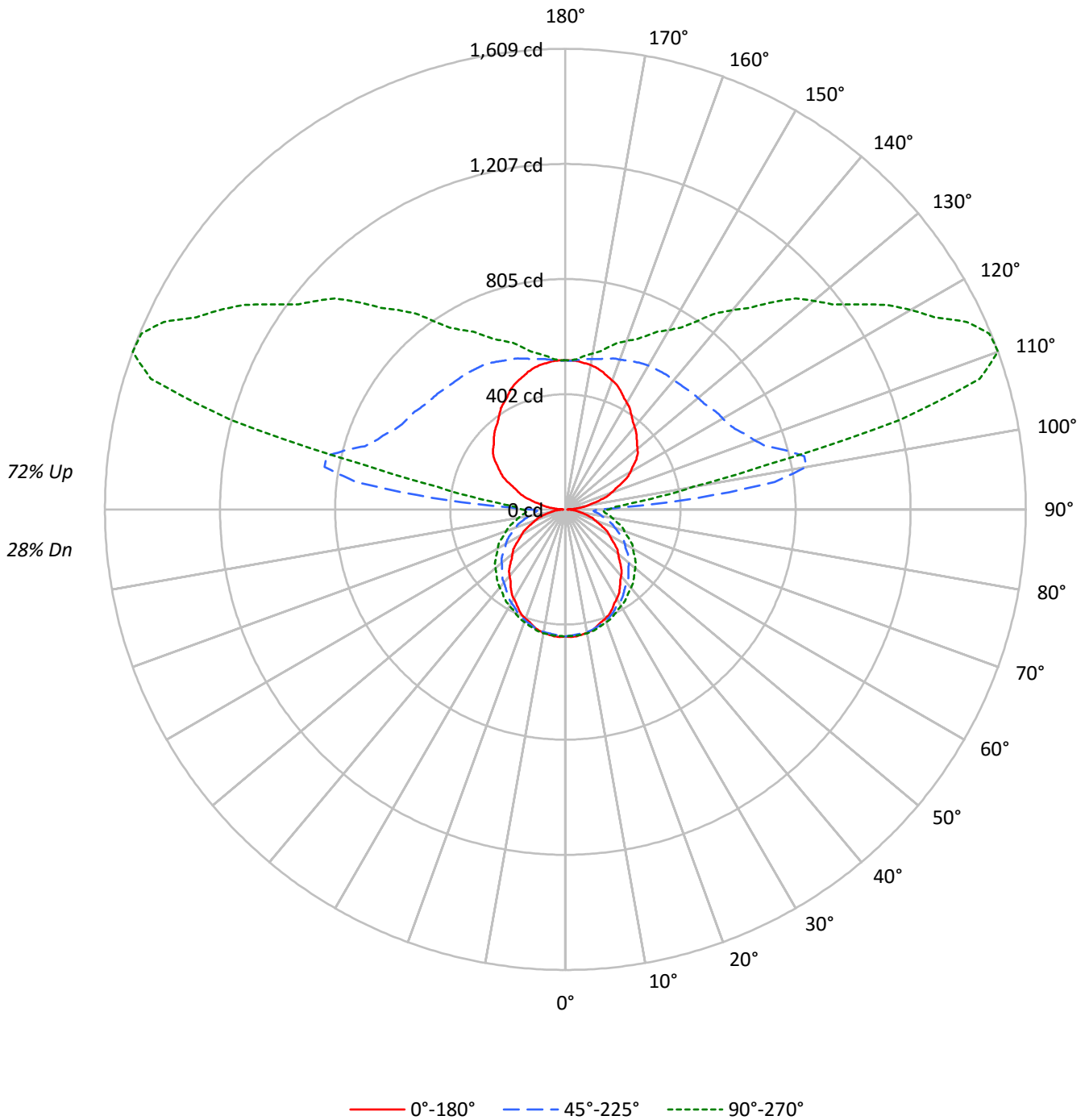
Lumens per Lamp: N/A
Luminaire Lumens: 5316.6 lumens
Efficiency: N/A
Efficacy: 107.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 49.4
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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28				
1	92	88	83	80	82	78	75	72	61	59	57	45	44	42	31	30	29	22				
2	83	76	70	64	74	68	63	58	53	49	46	39	37	35	26	25	24	18				
3	76	66	59	53	67	59	53	48	46	42	38	34	31	29	23	21	20	15				
4	69	58	51	45	61	52	46	40	41	36	32	30	27	24	20	18	17	12				
5	63	52	44	38	56	46	40	34	36	31	28	27	24	21	18	16	14	11				
6	58	46	38	32	52	42	35	30	33	28	24	24	21	18	17	14	13	9				
7	54	42	34	28	48	37	31	26	29	24	21	22	18	16	15	13	11	8				
8	50	37	30	25	44	34	27	22	27	22	18	20	17	14	14	11	10	7				
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	13	10	9	6				
10	43	31	24	19	38	28	22	18	22	18	14	17	13	11	12	9	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7164	7164	7164
5°	7199	6896	6870
10°	7153	6692	6617
15°	7055	6477	6350
20°	6930	6245	6094
25°	6807	6022	5862
30°	6634	5793	5628
35°	6458	5572	5464
40°	6275	5384	5299
45°	6100	5215	5159
50°	5912	5062	5019
55°	5713	4898	4878
60°	5473	4730	4729
65°	5222	4530	4552
70°	4938	4315	4361
75°	4578	4106	4186
80°	4008	3889	4005
85°	3471	3705	3868



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	0.8
10°-20°	120.6	2.3
20°-30°	182.7	3.4
30°-40°	222.5	4.2
40°-50°	239.4	4.5
50°-60°	232.5	4.4
60°-70°	203.0	3.8
70°-80°	156.3	2.9
80°-90°	109.6	2.1
90°-100°	280.2	5.3
100°-110°	758.5	14.3
110°-120°	784.5	14.8
120°-130°	636.6	12.0
130°-140°	503.8	9.5
140°-150°	375.9	7.1
150°-160°	263.2	5.0
160°-170°	154.9	2.9
170°-180°	50.4	0.9
0°-30°	345.3	6.5
0°-40°	567.8	10.7
0°-60°	1039.7	19.6
0°-90°	1508.5	28.4
90°-120°	1823.2	34.3
90°-150°	3339.6	62.8
90°-180°	3808.0	71.6
0°-180°	5316.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	445	443	439	443	442	42
15°	424	426	426	431	431	119
25°	386	390	396	404	406	177
35°	332	343	356	369	374	208
45°	273	290	312	332	339	210
55°	209	233	266	288	297	187
65°	143	175	212	238	247	142
75°	79	115	156	183	192	84
85°	23	63	104	130	140	25
90°	7	57	119	142	151	6
95°	40	122	466	246	220	41
105°	125	207	796	1402	1212	133
115°	218	282	659	1337	1548	216
125°	301	357	618	1075	1248	268
135°	353	421	596	891	1023	273
145°	402	462	586	732	803	252
155°	457	494	569	644	669	210
165°	498	513	545	578	587	140
175°	519	520	524	531	529	49
180°	520	520	520	520	520	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	446.3	445.9	445.6	445.2	444.9	444.3	443.5	442.7	442.0	441.1	441.7
5°	445.0	444.5	444.1	443.7	443.2	442.6	441.8	440.9	440.1	439.2	440.1
7.5°	441.0	440.7	440.4	440.1	439.9	439.4	438.7	438.1	437.4	436.7	437.7
10°	437.9	437.6	437.3	437.0	436.8	436.4	436.0	435.6	435.1	434.7	435.8
12.5°	432.7	432.8	432.9	432.9	433.0	432.8	432.6	432.2	431.9	431.6	432.7
15°	424.4	424.6	425.0	425.2	425.5	425.7	425.7	425.7	425.7	425.7	427.0
17.5°	413.6	414.2	414.8	415.4	416.0	416.6	417.0	417.4	417.9	418.4	419.7
20°	406.4	407.1	407.9	408.5	409.2	409.9	410.4	411.0	411.6	412.2	413.7
22.5°	398.6	399.5	400.4	401.1	402.0	402.8	403.6	404.4	405.2	406.0	407.6
25°	385.8	386.8	387.8	388.8	389.8	391.0	392.3	393.6	394.9	396.1	397.8
27.5°	370.4	372.0	373.7	375.3	376.9	378.5	380.0	381.5	383.0	384.5	386.7
30°	360.1	362.0	363.8	365.7	367.6	369.4	371.3	373.1	375.0	376.8	379.1
32.5°	348.8	350.9	352.9	355.1	357.1	359.3	361.4	363.7	365.8	368.1	370.7
35°	332.4	334.8	337.3	339.8	342.2	344.7	347.4	350.2	352.8	355.6	358.7
37.5°	314.7	317.5	320.3	323.1	325.9	329.1	332.6	336.0	339.6	343.1	346.6
40°	302.9	306.0	309.2	312.3	315.5	318.9	322.8	326.7	330.5	334.4	338.1
42.5°	291.5	294.7	297.8	301.0	304.1	307.9	312.4	316.8	321.2	325.6	329.7
45°	272.7	276.5	280.3	284.2	288.1	292.5	297.5	302.5	307.5	312.5	316.9
47.5°	254.0	258.2	262.4	266.6	270.8	275.9	281.7	287.6	293.4	299.3	303.9
50°	241.2	245.6	250.0	254.4	258.8	264.2	270.7	277.2	283.6	290.0	294.9
52.5°	228.8	233.4	238.1	242.8	247.5	253.1	259.9	266.7	273.5	280.3	285.2
55°	209.0	214.1	219.3	224.4	229.5	235.8	243.3	250.7	258.1	265.5	270.7
57.5°	189.4	195.3	201.0	206.8	212.7	219.3	226.9	234.5	242.0	249.6	255.2
60°	175.6	181.7	187.9	194.0	200.1	207.2	215.4	223.5	231.7	239.9	245.3
62.5°	163.2	169.5	176.0	182.4	188.7	196.0	204.1	212.2	220.4	228.5	234.3
65°	142.8	149.7	156.8	163.8	170.7	178.5	186.9	195.4	203.8	212.2	218.1
67.5°	124.0	131.3	138.6	145.9	153.3	161.2	169.9	178.5	187.1	195.7	201.6
70°	110.6	118.0	125.4	132.9	140.3	148.4	157.3	166.2	175.0	183.9	190.0
72.5°	98.2	105.9	113.6	121.2	128.9	137.2	146.2	155.2	164.1	173.1	179.2
75°	79.1	87.1	95.1	103.1	111.1	119.7	128.8	137.9	147.1	156.3	162.4
77.5°	60.6	69.0	77.3	85.7	94.1	102.9	112.2	121.5	130.8	140.1	146.2
80°	48.2	56.9	65.7	74.4	83.1	92.1	101.4	110.6	119.9	129.2	135.3
82.5°	38.0	46.6	55.1	63.7	72.3	81.4	90.7	100.1	109.5	119.0	124.9
85°	23.2	32.0	40.9	49.8	58.5	67.6	76.7	85.8	95.1	104.2	110.2
87.5°	12.8	22.0	31.3	40.1	49.1	58.5	68.6	79.2	89.5	98.8	104.5
90°	7.4	18.7	31.0	41.3	51.6	63.3	77.5	93.6	108.7	118.9	123.6
92.5°	18.1	31.3	46.1	58.3	72.8	90.5	121.8	162.5	199.7	210.3	195.7
95°	40.1	50.9	67.6	83.3	106.0	137.7	192.3	287.8	412.4	466.1	422.4
97.5°	61.5	72.9	89.5	109.0	133.5	167.7	233.8	363.3	564.3	737.8	775.8
100°	81.5	89.8	104.1	125.4	150.7	185.3	246.3	376.3	600.4	854.5	1003.8
102.5°	99.4	106.4	120.3	141.1	166.8	201.0	257.8	374.0	581.9	854.9	1086.5
105°	125.3	133.4	144.6	163.7	189.9	223.6	278.0	374.5	547.0	796.4	1067.5
107.5°	153.9	160.4	170.6	187.7	212.8	246.2	298.9	383.7	527.2	734.3	974.2
110°	172.6	179.4	188.3	204.1	228.1	262.0	313.0	392.0	521.1	704.0	915.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.2	196.7	205.8	220.4	243.1	277.3	326.4	401.1	518.6	682.9	873.7
115°	217.6	224.2	231.8	245.3	266.9	297.9	347.3	414.8	518.2	658.7	821.0
117.5°	245.4	250.4	257.4	269.1	289.3	320.8	366.5	429.7	520.6	644.0	785.7
120°	262.9	267.5	274.1	283.7	304.3	335.4	380.1	439.9	522.6	635.3	766.4
122.5°	279.8	283.2	289.5	299.5	319.7	351.3	393.3	448.7	525.5	629.0	749.6
125°	301.4	304.4	310.4	322.4	342.3	372.6	413.2	462.8	529.4	617.9	724.9
127.5°	318.9	322.8	331.1	344.1	363.2	393.7	432.5	476.6	534.3	609.9	701.9
130°	329.3	333.2	343.1	357.0	376.8	406.2	444.2	485.3	538.2	605.3	686.7
132.5°	339.0	343.6	354.3	368.9	389.6	418.7	454.4	494.0	542.3	601.4	673.9
135°	352.8	356.7	368.7	383.7	406.7	435.4	468.9	505.3	546.7	596.2	656.2
137.5°	366.4	371.1	383.1	399.1	421.8	448.2	480.4	513.6	550.6	592.3	642.7
140°	376.7	380.6	392.4	408.3	430.2	456.2	486.6	517.8	552.1	589.4	634.7
142.5°	387.1	390.2	401.2	417.1	438.2	462.5	491.8	522.0	553.7	588.4	627.6
145°	402.1	406.0	416.1	431.1	451.1	473.1	500.1	528.1	556.1	586.1	619.0
147.5°	418.9	421.9	431.4	445.3	461.9	481.5	506.9	531.5	556.9	582.6	610.6
150°	430.1	433.1	441.1	454.1	469.1	487.1	510.1	533.1	556.1	580.1	604.1
152.5°	441.3	442.7	450.6	462.1	476.3	492.7	513.3	533.9	554.5	576.1	598.5
155°	457.1	458.1	464.1	475.1	486.1	501.1	518.1	535.1	552.1	569.1	588.1
157.5°	470.3	471.3	476.1	485.7	494.5	507.1	521.5	535.1	547.5	561.9	578.3
160°	479.1	480.1	484.1	492.1	500.1	511.1	523.1	535.1	545.1	557.2	571.1
162.5°	487.9	487.3	491.3	497.7	504.9	513.5	523.9	534.3	542.7	553.1	564.7
165°	498.1	497.1	499.1	505.1	510.1	516.1	525.1	532.1	538.1	545.1	554.1
167.5°	506.5	505.3	507.1	510.9	514.5	518.3	524.9	530.7	533.5	538.1	543.7
170°	512.1	510.1	511.1	514.1	516.1	519.1	524.1	529.1	531.1	534.1	538.1
172.5°	515.3	514.1	513.5	516.5	517.7	519.9	523.3	526.7	527.9	529.3	532.5
175°	519.1	518.1	517.1	519.1	519.1	520.1	522.1	524.1	523.1	524.1	525.1
177.5°	520.9	519.3	518.5	520.1	520.1	520.1	520.9	522.5	520.9	520.1	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	443.7	443.7	443.7	443.7	443.7	443.7	443.7	443.7
2.5°	442.3	442.8	443.4	443.6	443.3	443.2	442.9	442.6
5°	440.9	441.8	442.6	443.0	442.8	442.7	442.6	442.4
7.5°	438.8	439.8	440.8	441.3	441.2	441.0	440.8	440.7
10°	437.0	438.1	439.3	439.8	439.6	439.5	439.4	439.2
12.5°	433.9	435.1	436.2	436.7	436.5	436.4	436.3	436.1
15°	428.3	429.6	430.8	431.4	431.3	431.1	430.9	430.8
17.5°	421.0	422.4	423.7	424.4	424.4	424.4	424.4	424.4
20°	415.3	416.9	418.4	419.2	419.2	419.2	419.2	419.2
22.5°	409.1	410.7	412.3	413.2	413.5	413.6	413.9	414.1
25°	399.5	401.2	402.9	404.1	404.5	404.9	405.4	405.8
27.5°	388.9	391.1	393.2	394.4	394.8	395.1	395.4	395.7
30°	381.4	383.7	386.0	387.3	387.7	388.1	388.6	389.0
32.5°	373.3	375.9	378.6	380.3	381.1	381.9	382.6	383.4
35°	361.9	365.1	368.2	370.2	371.3	372.2	373.2	374.3
37.5°	350.1	353.6	357.1	359.3	360.4	361.4	362.5	363.6
40°	341.8	345.5	349.2	351.7	353.0	354.3	355.6	356.9
42.5°	333.7	337.8	341.8	344.6	345.8	347.1	348.4	349.7
45°	321.4	325.8	330.2	333.1	334.6	336.0	337.4	338.9
47.5°	308.5	313.1	317.8	320.9	322.4	324.0	325.6	327.2
50°	299.7	304.5	309.4	312.6	314.3	315.8	317.4	318.9
52.5°	290.2	295.2	300.1	303.4	305.1	306.9	308.5	310.2
55°	275.9	281.0	286.1	289.6	291.5	293.3	295.2	297.0
57.5°	260.7	266.2	271.8	275.5	277.4	279.3	281.2	283.1
60°	250.7	256.1	261.6	265.3	267.3	269.3	271.3	273.3
62.5°	240.0	245.8	251.6	255.5	257.4	259.2	261.1	263.0
65°	223.9	229.8	235.7	239.5	241.3	243.2	245.0	246.9
67.5°	207.6	213.4	219.4	223.3	225.2	227.2	229.2	231.1
70°	196.2	202.3	208.4	212.4	214.1	215.9	217.6	219.3
72.5°	185.2	191.2	197.3	201.3	203.3	205.3	207.4	209.5
75°	168.6	174.7	180.8	184.9	186.7	188.6	190.4	192.3
77.5°	152.3	158.4	164.5	168.6	170.6	172.5	174.6	176.6
80°	141.3	147.2	153.3	157.2	159.3	161.3	163.2	165.2
82.5°	131.0	137.0	142.9	146.9	148.8	150.7	152.6	154.5
85°	116.1	122.2	128.2	132.2	134.1	136.2	138.2	140.2
87.5°	110.1	115.5	121.8	125.8	127.7	129.5	131.3	133.1
90°	128.3	132.0	139.7	144.5	146.2	147.9	149.6	151.4
92.5°	178.7	171.9	169.1	166.5	167.5	165.9	168.5	168.6
95°	346.9	291.3	254.7	236.3	225.0	218.7	217.4	220.2
97.5°	690.5	584.6	481.6	412.9	366.8	343.9	331.0	324.3
100°	988.1	869.4	737.6	620.0	538.6	497.1	469.7	453.2
102.5°	1181.9	1159.1	1064.0	939.1	850.5	778.7	744.0	721.2
105°	1280.6	1398.6	1416.6	1386.8	1326.4	1265.9	1224.5	1212.1
107.5°	1199.6	1374.7	1483.5	1535.1	1544.5	1542.7	1535.6	1518.6
110°	1131.3	1314.9	1447.5	1532.6	1577.2	1597.8	1608.3	1608.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1068.5	1244.9	1386.3	1483.4	1544.8	1578.1	1596.7	1603.7
115°	990.3	1148.7	1284.0	1389.9	1462.5	1510.1	1537.7	1548.3
117.5°	930.1	1069.6	1192.7	1292.1	1366.0	1416.1	1444.9	1454.0
120°	899.4	1027.4	1137.5	1231.2	1302.9	1351.4	1382.0	1393.5
122.5°	874.5	992.0	1096.3	1181.1	1245.3	1292.8	1320.0	1329.7
125°	837.8	944.6	1036.5	1114.0	1173.4	1212.6	1239.0	1248.3
127.5°	801.5	898.2	984.8	1056.4	1108.3	1145.1	1168.0	1175.7
130°	778.2	867.6	950.0	1018.3	1068.5	1103.6	1124.8	1133.9
132.5°	755.6	838.5	914.5	978.7	1028.1	1063.2	1082.8	1091.1
135°	724.2	793.2	862.2	920.3	964.5	998.6	1017.8	1023.0
137.5°	698.4	756.2	811.2	861.9	902.0	931.3	948.1	955.1
140°	682.0	732.3	780.6	826.1	859.0	885.9	901.7	908.6
142.5°	668.8	711.4	752.9	791.0	822.2	846.5	860.7	862.6
145°	650.8	684.7	716.6	746.4	771.1	788.8	799.5	803.2
147.5°	637.1	663.3	687.6	709.0	729.2	743.1	750.3	752.4
150°	628.1	650.1	671.1	689.1	704.1	716.2	722.1	723.2
152.5°	619.3	639.7	657.5	673.1	684.9	695.3	699.7	699.9
155°	607.1	623.1	638.1	649.1	660.1	667.1	671.1	669.2
157.5°	592.9	606.3	618.9	627.5	635.3	641.1	642.9	642.9
160°	584.1	595.1	606.1	613.1	620.1	625.1	626.1	626.1
162.5°	575.3	584.7	594.1	599.5	606.5	609.9	610.9	610.1
165°	562.1	569.1	576.1	580.1	584.1	588.1	588.1	587.1
167.5°	549.5	554.9	559.7	563.4	565.1	567.3	567.1	565.9
170°	543.1	546.1	550.1	552.1	553.1	556.1	555.1	553.1
172.5°	535.9	538.1	541.3	542.5	543.5	544.9	543.9	542.7
175°	528.1	529.1	530.1	531.1	531.1	532.1	531.1	529.1
177.5°	522.5	522.5	523.3	523.3	523.3	523.3	522.5	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1

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