

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: P332881-930

Luminaire Tested: **SA4XXRDIP-C350D810U930-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332881-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D810U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

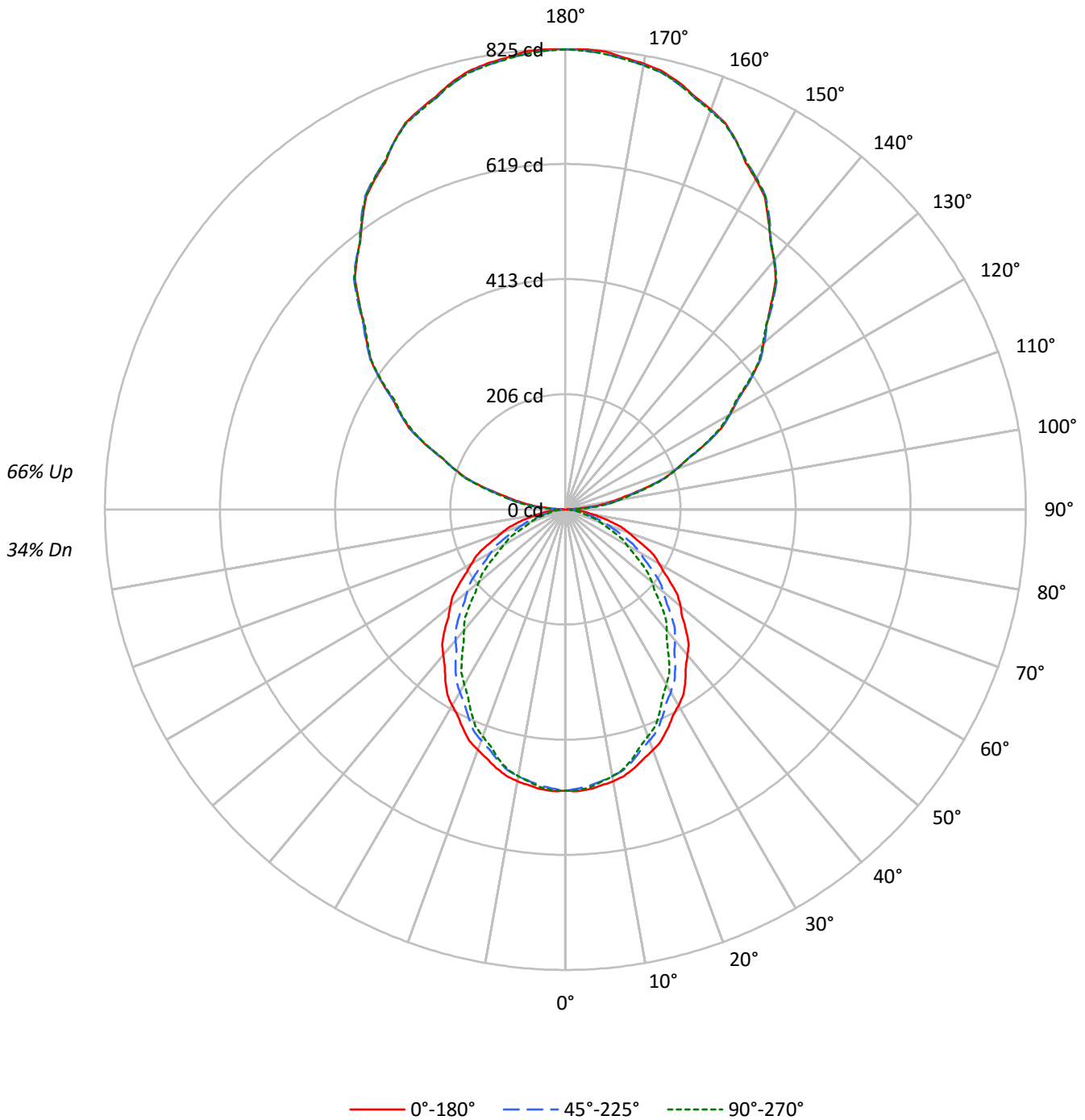
Lumens per Lamp: N/A
Luminaire Lumens: 3453.4 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (A_{in}): 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	0
RCR																		
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	83	85	82	78	76	65	63	61	50	49	48	37	36	35	29
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	30	24
3	79	69	62	57	71	63	57	52	51	46	43	39	37	34	29	27	26	21
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18
5	66	55	47	41	59	50	43	38	40	35	32	32	28	25	23	21	19	16
6	61	49	41	36	55	45	38	33	36	31	28	29	25	22	21	19	17	14
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15	12
8	52	40	33	27	47	37	30	25	30	25	21	24	20	18	18	15	14	11
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12	10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4069	4069	4069
5°	4078	4028	4053
10°	4052	3980	3980
15°	4006	3896	3867
20°	3942	3786	3716
25°	3861	3657	3564
30°	3781	3522	3375
35°	3693	3381	3183
40°	3587	3222	2977
45°	3490	3062	2767
50°	3378	2880	2545
55°	3258	2688	2303
60°	3127	2480	2055
65°	3007	2220	1813
70°	2832	1931	1539
75°	2611	1603	1251
80°	2278	1223	1148
85°	1936	1112	1037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.3	1.4
10°-20°	132.0	3.8
20°-30°	190.6	5.5
30°-40°	216.1	6.3
40°-50°	208.7	6.0
50°-60°	173.5	5.0
60°-70°	119.8	3.5
70°-80°	60.7	1.8
80°-90°	18.0	0.5
90°-100°	54.4	1.6
100°-110°	161.0	4.7
110°-120°	273.3	7.9
120°-130°	360.4	10.4
130°-140°	404.7	11.7
140°-150°	397.7	11.5
150°-160°	334.5	9.7
160°-170°	222.6	6.4
170°-180°	77.9	2.3
0°-30°	370.0	10.7
0°-40°	586.1	17.0
0°-60°	968.3	28.0
0°-90°	1166.9	33.8
90°-120°	488.7	14.2
90°-150°	1651.5	47.8
90°-180°	2287.0	66.2
0°-180°	3453.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	503	502	497	501	500	48
15°	479	475	466	465	463	135
25°	433	426	411	404	400	200
35°	375	362	343	330	323	234
45°	306	291	268	250	242	236
55°	232	216	191	172	164	207
65°	157	140	116	100	95	155
75°	84	69	51	43	40	88
85°	21	13	12	11	11	24
90°	2	9	14	18	19	3
95°	38	44	48	50	50	43
105°	148	149	152	154	156	158
115°	278	278	277	276	275	274
125°	405	405	404	403	402	361
135°	522	526	526	524	523	404
145°	634	637	637	637	635	397
155°	727	727	726	728	726	334
165°	791	789	788	791	789	223
175°	823	820	819	823	819	78
180°	824	824	824	824	824	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	505.2	504.9	504.7	504.4	504.1	503.6	502.9	502.1	501.3	500.6	501.3
5°	503.2	502.9	502.6	502.2	501.8	501.2	500.1	499.1	498.1	497.1	497.9
7.5°	498.6	498.3	498.0	497.6	497.3	496.4	495.0	493.7	492.4	491.1	491.5
10°	494.3	493.9	493.5	493.1	492.6	491.6	490.1	488.5	487.0	485.5	485.8
12.5°	488.8	488.3	487.8	487.3	486.8	485.7	483.8	482.0	480.2	478.3	478.6
15°	479.3	478.5	477.8	477.0	476.2	474.7	472.6	470.4	468.3	466.2	466.0
17.5°	467.8	466.7	465.5	464.5	463.3	461.5	458.9	456.3	453.8	451.2	450.7
20°	458.9	457.7	456.6	455.5	454.4	452.4	449.5	446.5	443.6	440.7	440.0
22.5°	449.0	447.7	446.5	445.2	443.9	441.7	438.6	435.5	432.4	429.3	428.3
25°	433.4	431.9	430.3	428.8	427.2	424.7	421.2	417.7	414.1	410.6	409.1
27.5°	417.0	415.1	413.1	411.2	409.3	406.4	402.7	398.9	395.2	391.4	389.6
30°	405.6	403.4	401.3	399.2	397.1	394.0	389.9	385.9	381.8	377.8	375.7
32.5°	393.5	391.1	388.7	386.3	383.8	380.6	376.4	372.3	368.1	363.9	361.4
35°	374.7	371.9	369.2	366.5	363.7	360.2	356.0	351.6	347.4	343.1	340.1
37.5°	354.6	351.7	348.9	346.1	343.2	339.5	334.7	330.0	325.2	320.5	317.2
40°	340.4	337.5	334.7	331.9	329.1	325.2	320.3	315.4	310.5	305.7	302.1
42.5°	326.8	323.8	320.8	317.9	315.0	310.9	305.8	300.7	295.6	290.5	286.8
45°	305.7	302.5	299.3	296.1	292.9	288.8	283.6	278.5	273.4	268.2	264.0
47.5°	283.8	280.5	277.3	273.9	270.7	266.4	261.1	255.7	250.3	245.0	240.6
50°	269.0	265.6	262.3	258.9	255.6	251.2	245.7	240.2	234.7	229.3	224.9
52.5°	253.9	250.5	247.3	244.0	240.8	236.3	230.6	225.0	219.4	213.8	209.5
55°	231.5	228.1	224.7	221.3	217.8	213.3	207.7	202.2	196.6	191.0	186.5
57.5°	209.5	205.9	202.4	198.8	195.2	190.7	185.2	179.7	174.2	168.7	164.2
60°	193.7	190.3	186.9	183.4	180.0	175.5	170.1	164.5	159.1	153.6	149.1
62.5°	179.5	175.9	172.4	168.8	165.3	160.7	155.1	149.4	143.8	138.2	134.0
65°	157.4	153.8	150.1	146.4	142.7	138.1	132.6	127.1	121.6	116.2	112.5
67.5°	134.5	131.0	127.4	123.9	120.4	116.1	111.0	105.9	100.8	95.7	92.5
70°	120.0	116.4	112.8	109.3	105.6	101.3	96.4	91.6	86.7	81.8	79.0
72.5°	104.6	101.3	98.1	94.8	91.6	87.6	83.0	78.4	73.8	69.1	66.8
75°	83.7	80.6	77.4	74.2	71.0	67.4	63.4	59.4	55.4	51.4	49.3
77.5°	62.6	59.9	57.2	54.5	51.9	48.8	45.6	42.3	39.1	35.8	34.7
80°	49.0	46.6	44.0	41.6	39.1	36.5	34.0	31.4	28.8	26.3	26.0
82.5°	37.3	35.0	32.7	30.4	28.1	26.3	24.8	23.3	21.9	20.4	20.2
85°	20.9	19.2	17.4	15.7	13.9	13.0	12.7	12.5	12.2	12.0	11.8
87.5°	7.5	7.3	7.0	6.8	6.5	6.5	6.7	6.8	6.9	7.1	7.3
90°	1.9	3.5	5.1	6.6	8.2	9.5	10.6	11.7	12.9	14.0	14.8
92.5°	13.6	15.4	17.2	19.0	20.8	22.1	22.8	23.6	24.5	25.3	25.8
95°	38.2	39.5	40.8	42.1	43.4	44.5	45.5	46.5	47.5	48.4	48.8
97.5°	66.8	67.8	68.8	69.9	70.8	72.0	73.1	74.3	75.4	76.6	77.1
100°	89.3	89.8	90.3	90.9	91.5	92.5	93.7	95.0	96.2	97.5	97.8
102.5°	112.7	112.9	113.2	113.4	113.6	114.3	115.4	116.6	117.8	119.0	119.4
105°	148.5	148.6	148.8	149.0	149.1	149.4	150.0	150.6	151.2	151.7	152.1
107.5°	186.1	186.3	186.5	186.6	186.8	186.9	187.0	187.1	187.2	187.3	187.7
110°	211.7	211.9	212.1	212.5	212.7	212.8	212.7	212.5	212.4	212.2	212.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	238.1	238.1	238.2	238.3	238.4	238.2	238.0	237.7	237.5	237.3	237.2
115°	277.9	277.9	277.9	277.9	277.9	277.8	277.4	277.2	276.9	276.6	276.5
117.5°	315.4	315.5	315.6	315.7	315.8	315.8	315.6	315.4	315.2	315.0	314.5
120°	340.4	341.0	341.5	342.1	342.7	342.7	342.3	341.9	341.4	341.0	340.3
122.5°	366.4	366.6	366.8	367.0	367.3	367.3	367.1	366.9	366.7	366.5	366.0
125°	404.7	404.7	404.7	404.7	404.7	404.6	404.6	404.4	404.2	404.1	403.8
127.5°	439.5	439.9	440.4	440.8	441.2	441.3	441.1	440.9	440.7	440.4	440.2
130°	464.0	464.5	464.9	465.3	465.7	465.9	465.9	465.9	465.9	465.9	465.6
132.5°	489.0	489.3	489.7	489.9	490.2	490.3	490.2	490.2	490.0	489.9	489.6
135°	522.0	522.9	523.7	524.6	525.5	525.9	525.9	525.9	525.9	525.9	525.5
137.5°	558.0	558.4	558.7	559.1	559.5	559.9	560.1	560.4	560.5	560.8	560.4
140°	582.0	582.2	582.5	582.8	583.1	583.2	583.2	583.2	583.2	583.2	583.1
142.5°	603.9	604.1	604.5	604.7	605.0	605.1	605.0	604.9	604.7	604.6	604.6
145°	634.2	634.8	635.4	635.9	636.5	636.8	637.0	637.1	637.2	637.4	637.2
147.5°	664.3	665.0	665.6	666.3	667.0	667.3	667.2	667.1	666.9	666.8	666.8
150°	682.7	683.2	683.8	684.4	684.9	685.2	685.2	685.2	685.2	685.2	685.2
152.5°	700.0	700.3	700.7	701.0	701.3	701.6	701.6	701.8	701.9	702.1	702.4
155°	726.6	726.6	726.6	726.6	726.6	726.5	726.4	726.3	726.1	726.0	726.5
157.5°	749.1	748.8	748.5	748.3	748.0	747.9	747.9	747.9	747.8	747.8	748.2
160°	762.3	762.1	762.1	761.9	761.7	761.6	761.5	761.3	761.2	761.1	761.5
162.5°	774.5	774.2	773.8	773.5	773.1	772.8	772.7	772.6	772.4	772.3	773.1
165°	791.0	790.6	790.2	789.7	789.3	789.0	788.6	788.4	788.1	787.8	788.6
167.5°	803.6	803.0	802.4	801.8	801.3	801.0	801.0	801.0	801.0	801.0	801.9
170°	810.7	810.1	809.3	808.6	808.0	807.6	807.8	808.0	808.0	808.2	809.0
172.5°	815.9	815.3	814.6	814.1	813.5	813.2	813.3	813.3	813.3	813.3	814.2
175°	822.9	822.1	821.4	820.8	820.0	819.6	819.5	819.3	819.2	819.0	820.0
177.5°	825.2	824.6	824.0	823.5	822.9	822.6	822.6	822.6	822.6	822.6	823.4
180°	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	504.0	504.0	504.0	504.0	504.0	504.0	504.0	504.0
2.5°	502.1	502.9	503.6	503.9	503.9	503.9	503.8	503.7
5°	498.8	499.6	500.5	500.8	500.7	500.5	500.3	500.1
7.5°	492.1	492.7	493.3	493.3	493.1	492.8	492.5	492.3
10°	486.2	486.5	486.8	486.8	486.5	486.2	485.8	485.5
12.5°	478.7	479.0	479.2	479.1	478.6	478.1	477.6	477.1
15°	465.9	465.7	465.5	465.1	464.5	463.9	463.3	462.7
17.5°	450.2	449.8	449.3	448.6	447.7	446.8	445.9	445.0
20°	439.4	438.6	438.0	437.1	435.9	434.8	433.7	432.6
22.5°	427.2	426.2	425.2	424.2	423.3	422.4	421.5	420.5
25°	407.6	406.3	404.8	403.7	402.8	401.9	401.0	400.1
27.5°	387.8	386.0	384.2	382.7	381.4	380.2	379.0	377.7
30°	373.5	371.4	369.2	367.5	366.1	364.8	363.4	362.0
32.5°	359.0	356.4	354.0	352.0	350.7	349.4	348.1	346.8
35°	337.2	334.4	331.4	329.2	327.7	326.1	324.6	323.0
37.5°	314.0	310.7	307.4	305.0	303.5	301.9	300.4	298.8
40°	298.4	294.8	291.2	288.7	287.1	285.6	284.1	282.5
42.5°	283.2	279.5	275.8	273.2	271.6	269.9	268.3	266.8
45°	259.8	255.6	251.4	248.5	247.0	245.4	243.9	242.4
47.5°	236.3	231.9	227.6	224.5	222.8	221.1	219.4	217.8
50°	220.6	216.4	212.1	209.1	207.5	205.9	204.2	202.6
52.5°	205.0	200.7	196.4	193.3	191.7	190.0	188.3	186.5
55°	182.1	177.7	173.2	170.2	168.5	166.9	165.3	163.6
57.5°	159.6	155.2	150.6	147.7	146.5	145.3	144.0	142.8
60°	144.6	140.2	135.7	132.8	131.4	130.1	128.7	127.3
62.5°	130.0	125.8	121.7	119.1	118.0	116.9	115.8	114.7
65°	108.8	105.1	101.4	99.1	98.0	97.0	96.0	94.9
67.5°	89.4	86.2	83.0	80.9	79.7	78.6	77.5	76.3
70°	76.1	73.3	70.5	68.6	67.8	66.9	66.0	65.2
72.5°	64.3	61.9	59.5	57.9	57.1	56.3	55.5	54.7
75°	47.4	45.4	43.5	42.2	41.7	41.2	40.7	40.1
77.5°	33.5	32.4	31.2	30.6	30.4	30.2	30.1	29.9
80°	25.8	25.4	25.2	25.0	24.9	24.9	24.8	24.7
82.5°	20.0	19.8	19.6	19.5	19.4	19.3	19.2	19.2
85°	11.7	11.4	11.3	11.2	11.2	11.2	11.2	11.2
87.5°	7.3	7.4	7.5	7.7	7.7	7.9	8.0	8.2
90°	15.7	16.6	17.4	18.0	18.3	18.6	18.8	19.2
92.5°	26.3	26.7	27.3	27.6	27.8	28.0	28.1	28.3
95°	49.3	49.7	50.1	50.4	50.4	50.4	50.4	50.4
97.5°	77.6	78.1	78.7	78.9	78.9	78.9	78.9	78.9
100°	98.1	98.4	98.7	98.8	98.8	98.8	98.8	98.8
102.5°	119.8	120.1	120.5	120.7	120.9	121.0	121.2	121.2
105°	152.5	153.0	153.4	153.8	154.3	154.7	155.1	155.6
107.5°	188.1	188.4	188.8	189.1	189.0	189.0	189.0	188.9
110°	211.7	211.4	211.1	211.2	211.7	212.1	212.5	212.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	237.1	237.1	237.0	237.0	237.1	237.2	237.3	237.3
115°	276.3	276.2	276.1	275.9	275.8	275.7	275.5	275.3
117.5°	314.1	313.6	313.1	312.7	312.4	312.1	311.9	311.5
120°	339.6	338.8	338.2	337.9	338.3	338.5	338.8	339.1
122.5°	365.5	365.1	364.6	364.1	363.5	363.1	362.6	362.1
125°	403.6	403.2	403.0	402.7	402.4	402.1	401.9	401.5
127.5°	439.9	439.6	439.3	439.0	438.8	438.6	438.4	438.1
130°	465.4	465.0	464.8	464.4	463.8	463.3	462.7	462.1
132.5°	489.3	489.0	488.8	488.5	488.3	488.0	487.8	487.6
135°	525.3	525.0	524.7	524.3	523.9	523.5	523.1	522.7
137.5°	560.0	559.7	559.3	559.1	559.2	559.3	559.4	559.5
140°	582.9	582.8	582.6	582.5	582.4	582.2	582.0	582.0
142.5°	604.5	604.5	604.5	604.5	604.5	604.5	604.4	604.4
145°	637.1	637.0	636.8	636.5	636.1	635.7	635.3	634.9
147.5°	666.6	666.5	666.3	666.3	666.1	665.9	665.9	665.7
150°	685.2	685.2	685.2	685.1	685.0	684.9	684.7	684.5
152.5°	702.7	703.0	703.4	703.4	703.0	702.6	702.3	701.9
155°	727.1	727.7	728.2	728.2	727.7	727.1	726.5	726.0
157.5°	748.6	749.1	749.5	749.4	749.0	748.5	748.0	747.5
160°	761.9	762.3	762.7	762.6	761.9	761.2	760.5	759.8
162.5°	773.8	774.5	775.3	775.3	774.6	774.0	773.2	772.5
165°	789.5	790.4	791.2	791.3	790.8	790.2	789.6	789.1
167.5°	802.7	803.6	804.5	804.5	803.6	802.7	801.8	801.0
170°	809.9	810.7	811.6	811.5	810.6	809.6	808.5	807.6
172.5°	815.2	816.2	817.2	817.2	816.2	815.1	814.2	813.2
175°	821.0	822.0	823.0	823.0	822.0	821.0	820.0	819.0
177.5°	824.2	825.0	825.8	825.7	824.8	823.9	823.0	822.1
180°	824.1	824.1	824.1	824.1	824.1	824.1	824.1	824.1

(END OF REPORT)