

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: P331648-930

Luminaire Tested: **SA2XXRDIP-C485D330U930-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331648-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D330U930-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

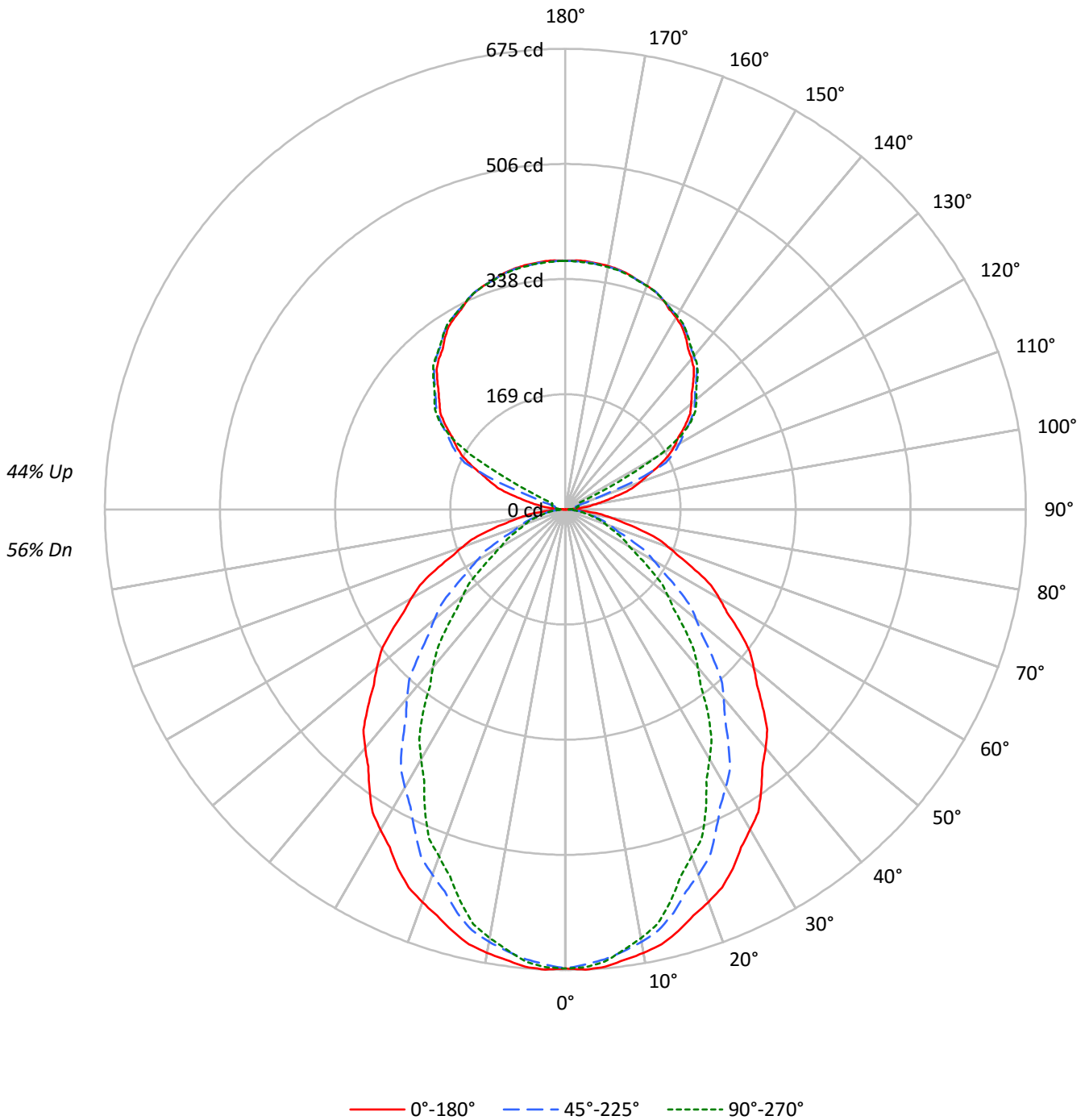
Lumens per Lamp: N/A
Luminaire Lumens: 2452.3 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 27.5
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	0
RCR																		
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	100	96	92	89	93	89	86	83	77	75	73	66	64	63	56	55	53	49
2	91	84	78	73	85	79	73	69	68	64	61	59	56	53	50	48	46	42
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	45	42	40	36
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	31	28
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	33	30	27	24
7	61	49	41	35	56	46	39	34	40	35	30	35	31	27	31	27	24	22
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22	20
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20	18
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10863	10863	10863
5°	10904	10728	10786
10°	10822	10552	10462
15°	10696	10238	9944
20°	10524	9792	9301
25°	10349	9285	8678
30°	10103	8764	7879
35°	9865	8198	7177
40°	9624	7611	6365
45°	9344	6951	5631
50°	9053	6285	4908
55°	8757	5571	4217
60°	8415	4818	3500
65°	8027	4046	3186
70°	7558	3333	2932
75°	6987	3038	2739
80°	6174	2715	2492
85°	4854	2149	2149



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.0	2.6
10°-20°	172.9	7.1
20°-30°	242.8	9.9
30°-40°	264.8	10.8
40°-50°	243.5	9.9
50°-60°	191.2	7.8
60°-70°	124.7	5.1
70°-80°	64.3	2.6
80°-90°	17.6	0.7
90°-100°	12.1	0.5
100°-110°	44.6	1.8
110°-120°	119.1	4.9
120°-130°	196.6	8.0
130°-140°	209.1	8.5
140°-150°	194.4	7.9
150°-160°	156.3	6.4
160°-170°	100.7	4.1
170°-180°	34.7	1.4
0°-30°	478.7	19.5
0°-40°	743.5	30.3
0°-60°	1178.2	48.0
0°-90°	1384.7	56.5
90°-120°	175.8	7.2
90°-150°	776.0	31.6
90°-180°	1068.0	43.6
0°-180°	2452.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	673	673	673	673	673	
5°	673	670	662	667	666	64
15°	640	632	612	601	595	180
25°	581	560	521	497	487	267
35°	500	468	416	379	364	313
45°	409	367	304	263	247	316
55°	311	263	198	163	150	278
65°	210	160	106	86	83	208
75°	112	71	49	45	44	119
85°	26	14	12	12	12	31
90°	0	3	5	7	7	2
95°	17	9	10	12	11	21
105°	80	84	16	19	20	86
115°	152	156	163	46	22	149
125°	214	218	223	225	225	191
135°	265	269	272	274	274	205
145°	308	308	312	314	312	192
155°	339	337	340	341	339	156
165°	357	356	356	358	356	101
175°	365	363	364	365	363	35
180°	364	364	364	364	364	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8
2.5°	675.2	674.7	674.2	673.6	673.1	672.2	671.1	669.8	668.6	667.5	668.5
5°	672.8	672.1	671.5	670.8	670.1	668.9	667.2	665.4	663.7	661.9	663.1
7.5°	665.9	665.0	664.2	663.3	662.5	661.0	659.0	657.0	654.9	652.9	653.2
10°	660.1	659.1	658.1	657.2	656.2	654.4	651.8	649.0	646.3	643.6	643.2
12.5°	652.7	651.6	650.4	649.2	648.1	645.8	642.3	638.9	635.4	631.9	631.2
15°	639.9	638.5	637.0	635.4	634.0	631.0	626.3	621.7	617.2	612.5	610.0
17.5°	624.3	622.0	619.7	617.4	615.1	611.1	605.2	599.2	593.4	587.4	584.4
20°	612.5	609.8	607.2	604.5	601.7	597.0	590.2	583.4	576.7	569.9	566.6
22.5°	599.9	596.9	593.8	590.8	587.7	582.4	574.8	567.1	559.5	551.9	547.6
25°	580.9	576.6	572.3	567.9	563.5	556.9	548.0	539.1	530.1	521.2	515.7
27.5°	558.0	553.3	548.5	543.9	539.2	531.7	521.7	511.6	501.6	491.5	485.0
30°	541.9	536.8	531.7	526.5	521.4	513.4	502.6	491.7	480.9	470.1	463.2
32.5°	526.4	520.3	514.3	508.3	502.3	493.7	482.7	471.7	460.6	449.6	441.7
35°	500.5	493.6	486.7	479.8	472.9	463.5	451.6	439.7	427.8	415.9	407.3
37.5°	474.7	467.1	459.5	451.9	444.4	434.2	421.6	408.9	396.2	383.5	374.1
40°	456.6	448.6	440.4	432.4	424.2	413.6	400.5	387.3	374.2	361.1	351.5
42.5°	438.1	429.6	421.0	412.5	404.0	392.9	379.4	365.7	352.2	338.7	328.7
45°	409.2	400.1	391.0	382.0	372.9	361.3	347.1	332.9	318.6	304.4	294.8
47.5°	380.9	371.3	361.7	352.1	342.5	330.4	315.7	301.0	286.3	271.7	262.1
50°	360.4	350.8	341.3	331.7	322.0	309.8	294.9	280.1	265.1	250.2	240.9
52.5°	340.5	330.4	320.4	310.4	300.4	288.0	273.5	258.9	244.3	229.8	220.8
55°	311.1	300.6	290.0	279.5	269.0	256.3	241.7	227.1	212.5	197.9	189.8
57.5°	281.0	270.3	259.4	248.6	237.7	225.3	211.3	197.2	183.2	169.2	161.7
60°	260.6	249.8	239.0	228.1	217.3	205.0	191.0	177.1	163.1	149.2	142.3
62.5°	240.6	229.8	219.0	208.1	197.3	185.3	172.0	158.7	145.4	132.2	125.6
65°	210.1	199.1	188.2	177.2	166.2	154.7	142.5	130.3	118.1	105.9	101.3
67.5°	180.6	169.7	158.8	148.0	137.1	126.1	115.2	104.3	93.3	82.3	80.2
70°	160.1	149.6	139.0	128.5	117.9	107.9	98.7	89.3	80.0	70.6	69.3
72.5°	140.6	130.5	120.4	110.3	100.2	91.4	83.9	76.4	68.9	61.4	60.3
75°	112.0	102.6	93.1	83.6	74.1	67.1	62.5	57.9	53.3	48.7	47.8
77.5°	83.9	75.6	67.3	58.9	50.7	45.4	43.2	41.0	38.7	36.5	36.0
80°	66.4	59.4	52.6	45.7	38.7	34.7	33.3	32.0	30.6	29.2	28.7
82.5°	50.3	44.9	39.5	34.2	28.8	25.6	24.7	23.7	22.8	21.9	21.6
85°	26.2	23.3	20.5	17.7	14.8	13.2	12.8	12.4	12.0	11.6	11.6
87.5°	7.8	7.1	6.4	5.6	4.9	4.6	4.6	4.7	4.9	5.0	4.9
90°	0.2	0.9	1.5	2.2	2.9	3.4	3.8	4.3	4.8	5.3	5.5
92.5°	5.3	5.3	5.2	5.1	5.1	5.2	5.4	5.6	5.9	6.1	6.3
95°	17.1	15.2	13.3	11.3	9.4	8.6	9.0	9.5	9.9	10.3	10.6
97.5°	34.0	28.5	23.1	17.7	12.2	9.9	10.9	11.8	12.8	13.8	14.0
100°	46.6	38.6	30.6	22.6	14.6	11.0	12.1	13.0	14.0	15.0	15.5
102.5°	60.6	58.9	57.2	55.5	53.8	48.8	40.4	32.1	23.8	15.4	16.1
105°	80.1	81.9	83.6	85.4	87.2	80.1	64.1	48.1	32.0	16.1	16.7
107.5°	102.4	103.9	105.3	106.7	108.1	99.2	80.1	60.9	41.7	22.5	21.9
110°	116.8	118.0	119.3	120.5	121.7	113.8	96.9	80.0	63.0	46.1	40.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.3	131.3	132.5	133.5	134.6	133.1	128.9	124.7	120.5	116.3	95.0
115°	151.6	152.5	153.6	154.6	155.6	156.8	158.2	159.7	161.2	162.7	135.5
117.5°	170.6	171.7	172.8	174.0	175.0	176.1	177.2	178.1	179.1	180.2	173.6
120°	184.5	185.4	186.3	187.2	188.0	189.0	190.0	191.1	192.2	193.2	194.0
122.5°	196.3	197.3	198.2	199.1	200.1	201.1	202.2	203.3	204.6	205.7	206.1
125°	214.3	215.1	215.8	216.6	217.4	218.3	219.4	220.5	221.6	222.7	223.1
127.5°	230.6	231.5	232.3	233.2	234.0	234.8	235.6	236.5	237.3	238.1	238.7
130°	240.9	241.9	242.8	243.8	244.7	245.5	246.1	246.8	247.4	248.1	248.7
132.5°	251.5	252.3	253.1	253.9	254.7	255.4	256.0	256.7	257.3	258.0	258.5
135°	265.2	266.1	267.1	268.0	269.0	269.7	270.2	270.8	271.3	271.8	272.4
137.5°	279.1	279.7	280.4	281.0	281.7	282.3	282.9	283.5	284.1	284.7	285.3
140°	288.1	288.6	289.0	289.5	290.0	290.6	291.2	291.9	292.5	293.1	293.7
142.5°	295.7	296.1	296.5	297.0	297.4	298.0	298.7	299.5	300.2	300.9	301.4
145°	307.6	307.6	307.5	307.4	307.4	307.9	308.8	309.9	310.9	311.9	312.3
147.5°	318.0	317.8	317.6	317.3	317.2	317.5	318.5	319.5	320.5	321.5	321.7
150°	324.7	324.3	323.9	323.5	323.1	323.4	324.3	325.3	326.2	327.2	327.5
152.5°	330.4	330.0	329.5	329.1	328.6	328.8	329.7	330.6	331.5	332.4	332.7
155°	338.8	338.2	337.7	337.1	336.6	336.7	337.5	338.1	338.8	339.5	339.9
157.5°	345.2	344.8	344.3	343.9	343.4	343.5	344.0	344.5	345.0	345.4	345.8
160°	349.0	348.7	348.3	348.0	347.6	347.6	348.0	348.3	348.7	349.0	349.4
162.5°	352.4	352.0	351.7	351.3	351.0	351.0	351.2	351.6	351.9	352.2	352.6
165°	356.9	356.6	356.2	355.9	355.6	355.5	355.6	355.8	356.0	356.1	356.5
167.5°	360.3	360.0	359.6	359.2	358.9	358.8	359.0	359.1	359.3	359.5	359.9
170°	362.2	361.8	361.5	361.2	360.8	360.7	360.8	360.9	361.0	361.2	361.6
172.5°	363.5	363.1	362.7	362.4	362.1	361.9	362.1	362.2	362.3	362.4	362.8
175°	365.1	364.7	364.3	363.9	363.5	363.3	363.5	363.5	363.7	363.8	364.2
177.5°	365.3	365.0	364.7	364.4	364.0	363.9	363.9	364.0	364.0	364.1	364.4
180°	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	672.8	672.8	672.8	672.8	672.8	672.8	672.8	672.8
2.5°	669.6	670.7	671.8	672.2	672.1	671.8	671.6	671.4
5°	664.3	665.5	666.8	667.2	666.8	666.3	665.9	665.5
7.5°	653.5	653.9	654.3	654.1	653.4	652.6	652.0	651.3
10°	642.8	642.4	642.0	641.4	640.6	639.8	639.0	638.1
12.5°	630.5	629.7	629.0	627.9	626.6	625.3	623.9	622.6
15°	607.4	604.9	602.3	600.3	598.9	597.6	596.2	594.9
17.5°	581.3	578.3	575.2	572.5	570.2	567.9	565.6	563.2
20°	563.1	559.8	556.4	553.2	550.2	547.2	544.3	541.3
22.5°	543.2	538.8	534.5	531.2	529.0	526.8	524.6	522.3
25°	510.1	504.6	499.0	495.2	493.2	491.1	489.2	487.1
27.5°	478.6	472.1	465.6	460.8	457.5	454.4	451.1	447.9
30°	456.2	449.4	442.5	437.2	433.5	429.9	426.2	422.6
32.5°	433.8	426.0	418.1	412.5	409.0	405.6	402.1	398.7
35°	398.8	390.3	381.8	376.0	373.1	370.1	367.1	364.1
37.5°	364.7	355.3	345.9	339.5	336.1	332.7	329.3	325.9
40°	341.9	332.2	322.6	316.1	312.6	309.1	305.5	302.0
42.5°	318.8	308.8	299.0	292.3	288.9	285.4	282.0	278.6
45°	285.2	275.7	266.0	259.6	256.3	253.1	249.8	246.6
47.5°	252.6	243.0	233.5	227.2	224.3	221.4	218.3	215.4
50°	231.5	222.3	212.9	206.8	204.0	201.1	198.3	195.4
52.5°	211.7	202.8	193.7	187.9	185.3	182.7	180.0	177.4
55°	181.6	173.5	165.4	160.0	157.5	154.9	152.4	149.8
57.5°	154.3	146.8	139.4	134.6	132.4	130.3	128.1	125.9
60°	135.3	128.5	121.6	117.1	114.9	112.7	110.6	108.4
62.5°	119.0	112.4	105.8	101.9	100.6	99.3	98.0	96.7
65°	96.8	92.1	87.6	85.0	84.6	84.2	83.8	83.4
67.5°	78.1	76.0	73.9	72.6	72.2	71.7	71.3	70.8
70°	67.9	66.6	65.2	64.2	63.8	63.2	62.6	62.1
72.5°	59.1	58.0	56.8	56.1	55.8	55.4	55.1	54.8
75°	46.8	45.9	44.9	44.4	44.3	44.1	43.9	43.9
77.5°	35.5	34.9	34.4	34.0	33.8	33.6	33.3	33.1
80°	28.1	27.6	27.1	26.8	26.8	26.8	26.8	26.8
82.5°	21.3	21.0	20.6	20.5	20.5	20.5	20.5	20.5
85°	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6
87.5°	4.9	4.8	4.7	4.7	4.7	4.8	4.8	4.8
90°	5.9	6.1	6.4	6.7	6.8	6.8	7.0	7.1
92.5°	6.4	6.6	6.7	6.8	6.9	7.0	7.0	7.1
95°	10.8	11.2	11.4	11.6	11.5	11.4	11.4	11.3
97.5°	14.3	14.4	14.7	14.8	14.9	15.0	15.1	15.2
100°	16.0	16.5	16.9	17.2	17.3	17.4	17.5	17.7
102.5°	16.6	17.3	17.9	18.3	18.4	18.6	18.8	18.9
105°	17.4	18.0	18.7	19.1	19.3	19.6	19.8	20.1
107.5°	21.2	20.5	19.9	19.6	19.9	20.1	20.4	20.6
110°	34.4	28.5	22.7	19.9	20.1	20.4	20.6	20.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	73.6	52.3	30.9	20.3	20.5	20.6	20.9	21.0
115°	108.4	81.3	54.1	38.5	34.2	30.1	25.8	21.6
117.5°	167.1	160.5	153.9	143.7	129.9	116.0	102.2	88.3
120°	194.6	195.3	196.0	192.4	184.5	176.6	168.7	160.8
122.5°	206.5	206.9	207.3	206.8	205.3	203.7	202.2	200.6
125°	223.6	224.0	224.4	224.7	224.9	225.0	225.2	225.3
127.5°	239.4	239.9	240.5	240.8	240.9	240.9	240.9	241.0
130°	249.3	250.0	250.6	250.9	250.9	250.8	250.8	250.7
132.5°	259.1	259.6	260.2	260.4	260.3	260.3	260.2	260.2
135°	273.0	273.5	274.1	274.3	274.3	274.1	274.0	273.9
137.5°	285.8	286.4	287.0	287.1	287.0	286.8	286.6	286.4
140°	294.2	294.7	295.2	295.4	295.1	294.8	294.5	294.2
142.5°	301.9	302.4	302.9	303.0	302.6	302.4	302.1	301.7
145°	312.7	313.1	313.5	313.6	313.2	313.0	312.7	312.3
147.5°	322.0	322.4	322.7	322.7	322.5	322.2	322.0	321.7
150°	327.8	328.2	328.6	328.6	328.3	328.0	327.7	327.4
152.5°	333.1	333.5	333.8	333.8	333.4	333.0	332.6	332.2
155°	340.2	340.6	341.0	340.9	340.4	340.0	339.5	339.0
157.5°	346.3	346.7	347.0	347.0	346.5	346.1	345.6	345.2
160°	349.8	350.1	350.4	350.4	350.0	349.6	349.2	348.8
162.5°	352.9	353.4	353.8	353.8	353.2	352.7	352.2	351.7
165°	356.9	357.3	357.8	357.8	357.3	356.9	356.5	356.1
167.5°	360.3	360.7	361.1	361.0	360.5	360.0	359.5	358.9
170°	362.0	362.4	362.8	362.7	362.2	361.7	361.2	360.6
172.5°	363.2	363.6	364.0	364.0	363.5	363.0	362.4	361.9
175°	364.6	365.0	365.4	365.3	364.8	364.2	363.5	363.0
177.5°	364.8	365.1	365.4	365.3	364.9	364.5	364.1	363.7
180°	364.3	364.3	364.3	364.3	364.3	364.3	364.3	364.3

(END OF REPORT)