

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: P331925-927

Luminaire Tested: **S123DIP-S560D585U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331925-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3692.7 lumens
Efficiency: N/A
Efficacy: 112.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

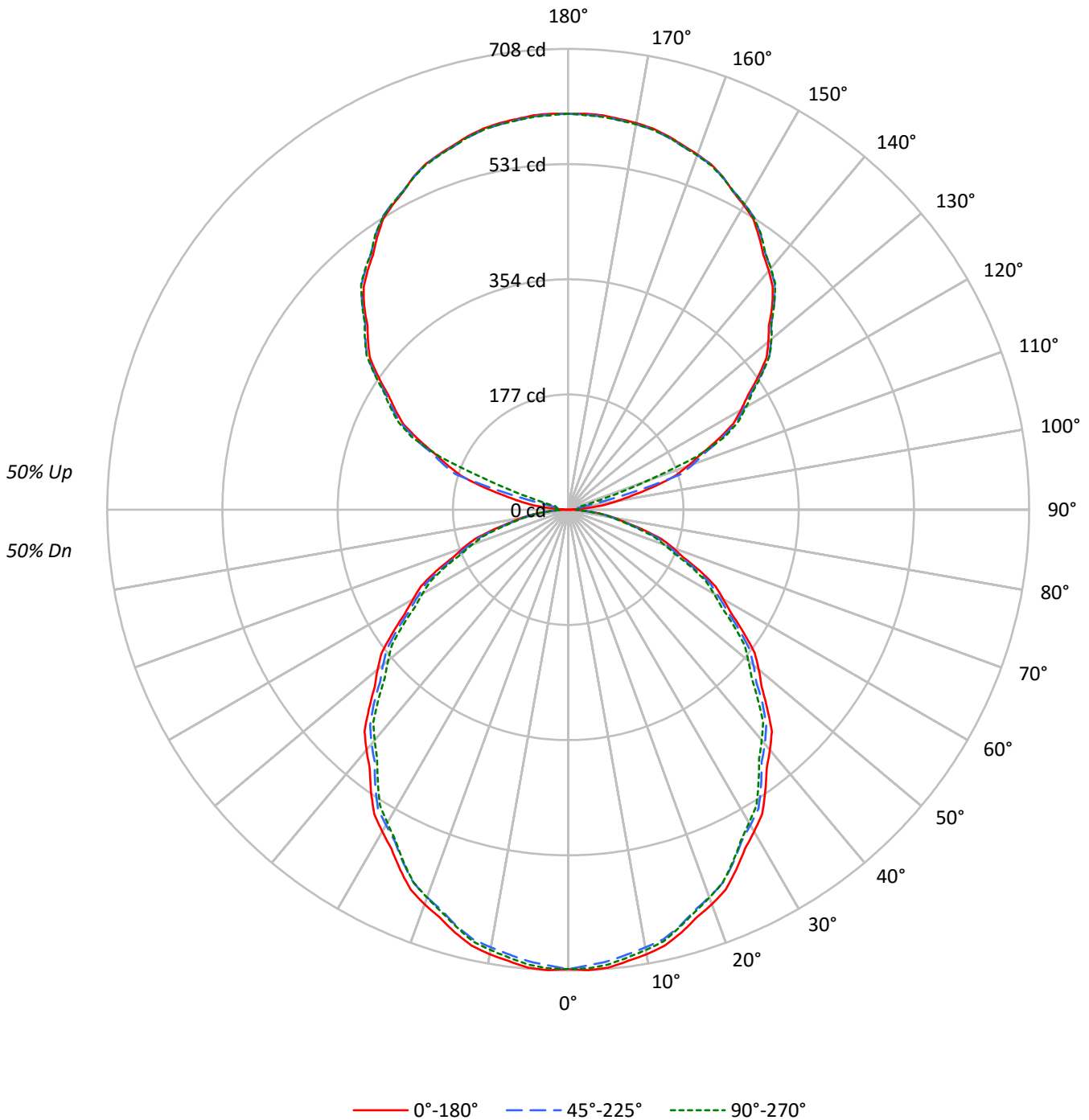
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	40	35
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	36	34	30
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25
5	68	56	48	42	62	52	45	40	45	39	35	38	33	30	31	28	25	22
6	63	51	42	37	58	47	40	34	40	35	30	34	30	26	28	25	22	19
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	26	22	20	17
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	22	18	16	14
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7597	7597	7597
5°	7632	7527	7580
10°	7581	7462	7508
15°	7492	7377	7392
20°	7389	7257	7263
25°	7251	7114	7099
30°	7097	6954	6901
35°	6937	6786	6699
40°	6770	6600	6497
45°	6587	6428	6272
50°	6402	6219	6047
55°	6161	6001	5819
60°	5918	5748	5565
65°	5703	5471	5300
70°	5385	5155	4925
75°	4924	4745	4541
80°	4438	4252	4215
85°	3890	3742	3606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.5	1.8
10°-20°	187.7	5.1
20°-30°	277.3	7.5
30°-40°	323.9	8.8
40°-50°	325.6	8.8
50°-60°	286.0	7.7
60°-70°	213.1	5.8
70°-80°	121.4	3.3
80°-90°	36.5	1.0
90°-100°	22.1	0.6
100°-110°	105.4	2.9
110°-120°	253.1	6.9
120°-130°	322.3	8.7
130°-140°	344.4	9.3
140°-150°	322.0	8.7
150°-160°	259.8	7.0
160°-170°	167.7	4.5
170°-180°	57.8	1.6
0°-30°	531.5	14.4
0°-40°	855.4	23.2
0°-60°	1467.0	39.7
0°-90°	1838.1	49.8
90°-120°	380.6	10.3
90°-150°	1369.4	37.1
90°-180°	1855.0	50.2
0°-180°	3692.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	706	706	706	706	706	
5°	706	703	697	702	702	67
15°	672	670	662	666	663	189
25°	610	607	599	599	598	281
35°	528	524	516	513	510	330
45°	433	430	422	415	412	334
55°	328	327	320	313	310	294
65°	224	221	215	210	208	221
75°	118	116	114	111	109	127
85°	32	30	30	29	29	35
90°	0	5	11	13	14	3
95°	28	10	14	17	17	34
105°	135	137	99	24	20	143
115°	252	255	259	264	266	249
125°	356	360	362	362	363	318
135°	443	446	448	449	448	341
145°	511	515	516	516	516	320
155°	563	563	563	565	562	259
165°	594	593	592	596	593	168
175°	608	606	606	609	606	58
180°	608	608	608	608	608	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	708.1	707.7	707.3	706.9	706.5	705.6	704.4	703.2	702.1	700.9	702.0
5°	706.3	705.7	705.0	704.3	703.6	702.6	701.1	699.6	698.2	696.6	698.0
7.5°	699.4	698.8	698.1	697.4	696.7	695.6	694.1	692.5	691.0	689.5	690.7
10°	693.6	692.9	692.3	691.6	690.9	689.7	687.9	686.2	684.4	682.7	683.9
12.5°	685.9	685.2	684.7	684.1	683.6	682.5	680.8	679.1	677.6	675.9	676.8
15°	672.3	671.8	671.3	670.7	670.2	669.1	667.3	665.6	663.8	662.0	663.1
17.5°	656.7	656.0	655.3	654.6	653.9	652.7	650.9	649.2	647.5	645.6	646.4
20°	645.1	644.3	643.4	642.6	641.8	640.6	638.8	637.1	635.3	633.5	634.1
22.5°	631.9	631.1	630.3	629.5	628.7	627.4	625.7	623.9	622.2	620.4	620.8
25°	610.5	609.7	608.9	608.1	607.2	605.9	604.2	602.5	600.7	599.0	599.0
27.5°	587.6	586.8	586.0	585.2	584.4	583.0	581.1	579.3	577.4	575.5	575.6
30°	571.0	570.4	569.7	569.0	568.3	567.0	565.1	563.2	561.4	559.5	559.5
32.5°	554.5	553.7	552.7	551.8	551.0	549.8	548.3	546.8	545.4	544.0	543.2
35°	527.9	527.1	526.3	525.5	524.7	523.4	521.7	519.9	518.2	516.4	515.6
37.5°	500.7	499.7	498.7	497.6	496.6	495.3	493.5	491.7	489.9	488.1	487.2
40°	481.8	481.0	480.2	479.4	478.6	477.2	475.3	473.5	471.6	469.7	468.6
42.5°	462.9	462.0	461.1	460.1	459.2	457.8	455.9	454.1	452.2	450.3	449.2
45°	432.7	432.1	431.6	431.0	430.5	429.4	427.6	425.9	424.1	422.3	420.7
47.5°	402.7	401.9	401.2	400.4	399.6	398.3	396.7	395.1	393.4	391.7	390.1
50°	382.3	381.6	381.0	380.2	379.6	378.4	376.6	374.9	373.1	371.4	369.9
52.5°	360.9	360.4	360.0	359.6	359.1	357.9	356.1	354.3	352.4	350.5	349.3
55°	328.3	328.1	328.0	327.9	327.7	326.8	325.0	323.3	321.5	319.8	318.3
57.5°	297.2	296.8	296.3	295.9	295.4	294.5	293.0	291.7	290.3	288.8	287.6
60°	274.9	274.7	274.6	274.5	274.3	273.5	271.9	270.2	268.6	267.0	265.8
62.5°	255.0	254.6	254.3	254.0	253.6	252.6	251.0	249.4	247.7	246.1	244.9
65°	223.9	223.2	222.6	221.9	221.3	220.2	218.9	217.5	216.2	214.8	213.7
67.5°	191.0	190.4	189.8	189.3	188.6	187.8	186.8	185.8	184.7	183.8	182.8
70°	171.1	170.3	169.5	168.7	167.9	167.1	166.3	165.5	164.6	163.8	162.9
72.5°	150.3	149.6	149.1	148.5	147.9	147.1	146.2	145.3	144.3	143.5	142.6
75°	118.4	117.8	117.2	116.7	116.2	115.7	115.3	114.9	114.5	114.1	113.4
77.5°	90.1	89.8	89.4	89.2	88.9	88.5	88.0	87.5	87.0	86.5	86.1
80°	71.6	71.2	70.8	70.4	69.9	69.6	69.4	69.1	68.8	68.6	68.4
82.5°	53.6	53.6	53.5	53.4	53.3	53.2	53.2	53.2	53.1	53.1	52.8
85°	31.5	31.3	31.1	30.7	30.5	30.3	30.3	30.3	30.3	30.3	30.1
87.5°	12.7	12.6	12.4	12.4	12.2	12.2	12.4	12.5	12.7	12.8	12.8
90°	0.5	1.4	2.5	3.5	4.4	5.6	6.9	8.2	9.5	10.9	11.2
92.5°	8.4	8.2	7.8	7.5	7.3	7.6	8.6	9.6	10.6	11.6	12.2
95°	27.6	23.4	19.3	15.2	11.1	9.6	10.7	11.8	12.9	14.0	14.7
97.5°	55.4	53.6	51.7	49.8	48.0	43.5	36.2	29.0	21.8	14.6	15.4
100°	76.4	78.3	80.4	82.4	84.4	77.6	61.9	46.3	30.6	14.9	15.7
102.5°	100.2	101.6	103.1	104.6	106.0	98.2	81.0	63.9	46.8	29.7	27.3
105°	134.7	135.8	136.9	137.9	139.0	135.1	126.0	117.0	108.0	98.9	81.2
107.5°	171.0	171.8	172.8	173.6	174.5	175.6	177.1	178.5	179.9	181.3	168.3
110°	195.2	196.0	196.8	197.6	198.4	199.4	200.4	201.5	202.6	203.7	200.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	218.3	219.0	219.8	220.5	221.2	222.1	223.2	224.3	225.5	226.6	226.6
115°	252.5	253.2	253.7	254.4	255.0	255.7	256.7	257.5	258.4	259.4	260.4
117.5°	285.7	286.5	287.2	288.0	288.7	289.3	289.8	290.3	290.7	291.1	292.0
120°	306.3	307.2	308.2	309.0	310.0	310.5	310.9	311.2	311.5	311.7	312.6
122.5°	327.3	328.0	328.8	329.5	330.3	330.8	331.2	331.6	332.0	332.4	333.0
125°	356.0	356.9	357.7	358.5	359.3	359.9	360.3	360.7	361.1	361.5	361.6
127.5°	383.9	384.7	385.5	386.3	387.1	387.7	388.2	388.7	389.2	389.7	390.0
130°	401.2	402.0	402.8	403.6	404.4	405.0	405.4	405.8	406.2	406.6	407.0
132.5°	417.9	418.7	419.5	420.3	421.0	421.6	421.9	422.2	422.6	422.9	423.3
135°	443.2	443.9	444.4	445.0	445.7	446.2	446.6	446.9	447.3	447.7	448.1
137.5°	464.9	465.7	466.4	467.2	467.9	468.5	468.7	468.9	469.1	469.4	469.8
140°	479.3	480.0	480.6	481.2	481.8	482.3	482.5	482.8	483.2	483.5	483.9
142.5°	492.7	493.4	494.0	494.6	495.2	495.6	495.9	496.2	496.5	496.9	497.2
145°	511.4	512.1	512.9	513.6	514.3	514.8	514.9	515.2	515.3	515.6	515.7
147.5°	529.1	529.6	530.0	530.4	530.9	531.2	531.5	531.6	531.9	532.1	532.3
150°	540.0	540.3	540.5	540.8	541.1	541.4	541.6	541.8	542.0	542.2	542.4
152.5°	549.7	549.9	549.9	550.1	550.2	550.4	550.5	550.6	550.7	550.9	551.2
155°	563.4	563.2	563.0	562.8	562.6	562.6	562.7	562.8	562.8	563.0	563.5
157.5°	574.1	574.1	574.0	574.0	574.0	573.9	573.9	573.8	573.6	573.5	574.2
160°	580.6	580.5	580.4	580.3	580.2	580.1	580.0	579.9	579.8	579.7	580.3
162.5°	586.8	586.5	586.2	586.0	585.7	585.5	585.4	585.3	585.2	585.1	585.8
165°	594.1	593.8	593.6	593.3	592.9	592.7	592.6	592.6	592.5	592.3	593.2
167.5°	599.9	599.5	599.1	598.7	598.3	598.1	598.1	598.1	598.1	598.1	599.0
170°	603.2	602.8	602.4	602.0	601.6	601.3	601.3	601.3	601.3	601.3	602.2
172.5°	605.4	604.9	604.4	603.9	603.4	603.2	603.3	603.4	603.5	603.6	604.4
175°	608.2	607.7	607.1	606.7	606.2	605.9	606.0	606.2	606.3	606.3	607.0
177.5°	608.9	608.5	608.1	607.7	607.3	607.1	607.2	607.3	607.4	607.4	608.1
180°	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	705.8	705.8	705.8	705.8	705.8	705.8	705.8	705.8
2.5°	703.1	704.1	705.2	705.7	705.6	705.4	705.4	705.3
5°	699.3	700.7	702.0	702.6	702.3	702.0	701.8	701.5
7.5°	691.9	693.1	694.3	694.8	694.7	694.5	694.3	694.2
10°	685.1	686.3	687.5	688.0	687.8	687.5	687.2	686.9
12.5°	677.6	678.6	679.5	679.8	679.6	679.5	679.3	679.1
15°	664.2	665.3	666.4	666.5	665.7	664.9	664.1	663.3
17.5°	647.2	647.9	648.7	648.9	648.6	648.3	648.0	647.7
20°	634.6	635.2	635.6	635.7	635.3	634.9	634.5	634.1
22.5°	621.3	621.7	622.2	622.1	621.6	621.1	620.6	620.0
25°	599.2	599.4	599.4	599.4	599.0	598.6	598.1	597.7
27.5°	575.8	575.8	575.9	575.8	575.2	574.7	574.2	573.7
30°	559.5	559.5	559.5	559.0	558.1	557.1	556.2	555.2
32.5°	542.5	541.7	540.9	540.3	539.8	539.3	538.8	538.3
35°	514.8	514.0	513.2	512.5	511.7	511.1	510.4	509.8
37.5°	486.2	485.2	484.3	483.5	483.2	482.7	482.3	481.8
40°	467.5	466.4	465.4	464.5	464.0	463.5	463.0	462.4
42.5°	448.1	447.0	445.9	445.1	444.6	444.1	443.5	443.0
45°	419.1	417.5	415.9	414.7	414.1	413.4	412.7	412.0
47.5°	388.6	387.0	385.4	384.3	383.7	383.1	382.5	381.9
50°	368.4	366.9	365.4	364.3	363.5	362.7	361.9	361.1
52.5°	348.0	346.7	345.5	344.4	343.6	342.8	342.0	341.2
55°	316.8	315.4	313.9	312.8	312.1	311.4	310.8	310.1
57.5°	286.2	284.9	283.6	282.5	281.7	281.0	280.2	279.4
60°	264.6	263.4	262.1	261.2	260.5	259.8	259.2	258.5
62.5°	243.7	242.5	241.3	240.4	240.0	239.6	239.1	238.6
65°	212.6	211.6	210.5	209.8	209.4	209.0	208.6	208.1
67.5°	181.9	180.9	180.0	179.2	178.6	178.1	177.5	177.0
70°	161.9	161.1	160.1	159.2	158.6	157.9	157.2	156.5
72.5°	141.8	140.9	140.1	139.5	139.2	138.8	138.5	138.1
75°	112.7	112.1	111.4	110.8	110.4	110.0	109.6	109.2
77.5°	85.6	85.2	84.7	84.4	84.4	84.4	84.4	84.4
80°	68.3	68.1	68.0	68.0	68.0	68.0	68.0	68.0
82.5°	52.5	52.3	52.0	51.9	51.8	51.7	51.6	51.5
85°	29.8	29.5	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.9
90°	11.6	12.0	12.4	12.8	13.0	13.2	13.4	13.5
92.5°	12.8	13.5	14.1	14.5	14.7	14.7	14.9	15.0
95°	15.4	16.1	16.8	17.2	17.2	17.2	17.2	17.2
97.5°	16.2	17.0	17.7	18.2	18.3	18.4	18.5	18.6
100°	16.5	17.3	18.1	18.5	18.7	18.8	18.9	19.0
102.5°	24.7	22.3	19.8	18.6	18.8	19.0	19.2	19.3
105°	63.4	45.6	27.9	19.1	19.3	19.5	19.6	19.9
107.5°	155.3	142.3	129.2	116.1	102.6	89.2	75.8	62.4
110°	197.2	193.8	190.5	181.6	167.3	153.0	138.6	124.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	226.6	226.7	226.8	225.3	222.3	219.2	216.2	213.2
115°	261.3	262.4	263.4	264.0	264.4	264.9	265.3	265.7
117.5°	292.8	293.6	294.4	294.9	294.9	295.0	295.1	295.2
120°	313.4	314.2	315.0	315.4	315.4	315.4	315.4	315.4
122.5°	333.5	334.1	334.6	334.9	335.0	335.1	335.2	335.3
125°	361.9	362.0	362.3	362.5	362.7	362.9	363.1	363.3
127.5°	390.3	390.6	390.9	391.0	390.8	390.6	390.4	390.2
130°	407.4	407.8	408.2	408.4	408.1	408.0	407.7	407.6
132.5°	423.7	424.1	424.5	424.6	424.3	424.0	423.7	423.4
135°	448.4	448.7	448.9	448.9	448.7	448.4	448.1	447.7
137.5°	470.3	470.8	471.3	471.4	471.2	471.0	470.8	470.6
140°	484.3	484.7	485.1	485.1	485.0	484.7	484.6	484.3
142.5°	497.5	497.8	498.1	498.1	497.9	497.6	497.3	497.0
145°	515.9	516.1	516.3	516.4	516.4	516.4	516.4	516.4
147.5°	532.5	532.7	532.9	532.7	532.3	531.8	531.4	530.9
150°	542.6	542.8	543.0	543.0	542.6	542.3	542.0	541.8
152.5°	551.6	551.9	552.3	552.2	551.8	551.4	550.9	550.4
155°	564.0	564.5	565.0	564.9	564.4	563.7	563.2	562.5
157.5°	574.7	575.4	576.0	575.8	575.0	574.3	573.5	572.7
160°	580.9	581.5	582.1	582.0	581.4	580.7	580.0	579.2
162.5°	586.5	587.2	587.9	587.9	587.2	586.6	586.0	585.4
165°	594.0	594.8	595.6	595.6	594.9	594.2	593.5	592.8
167.5°	599.8	600.6	601.3	601.3	600.6	599.8	599.0	598.1
170°	603.0	603.8	604.6	604.6	603.8	603.0	602.2	601.3
172.5°	605.1	605.9	606.7	606.7	605.9	605.0	604.0	603.2
175°	607.8	608.5	609.2	609.1	608.3	607.5	606.7	605.9
177.5°	608.7	609.3	610.0	609.9	609.1	608.3	607.5	606.7
180°	608.2	608.2	608.2	608.2	608.2	608.2	608.2	608.2

(END OF REPORT)