

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: P332280

Luminaire Tested: **S123RDIP-S560D585U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332280
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D585U835-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4147.6 lumens
Efficiency: N/A
Efficacy: 126.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

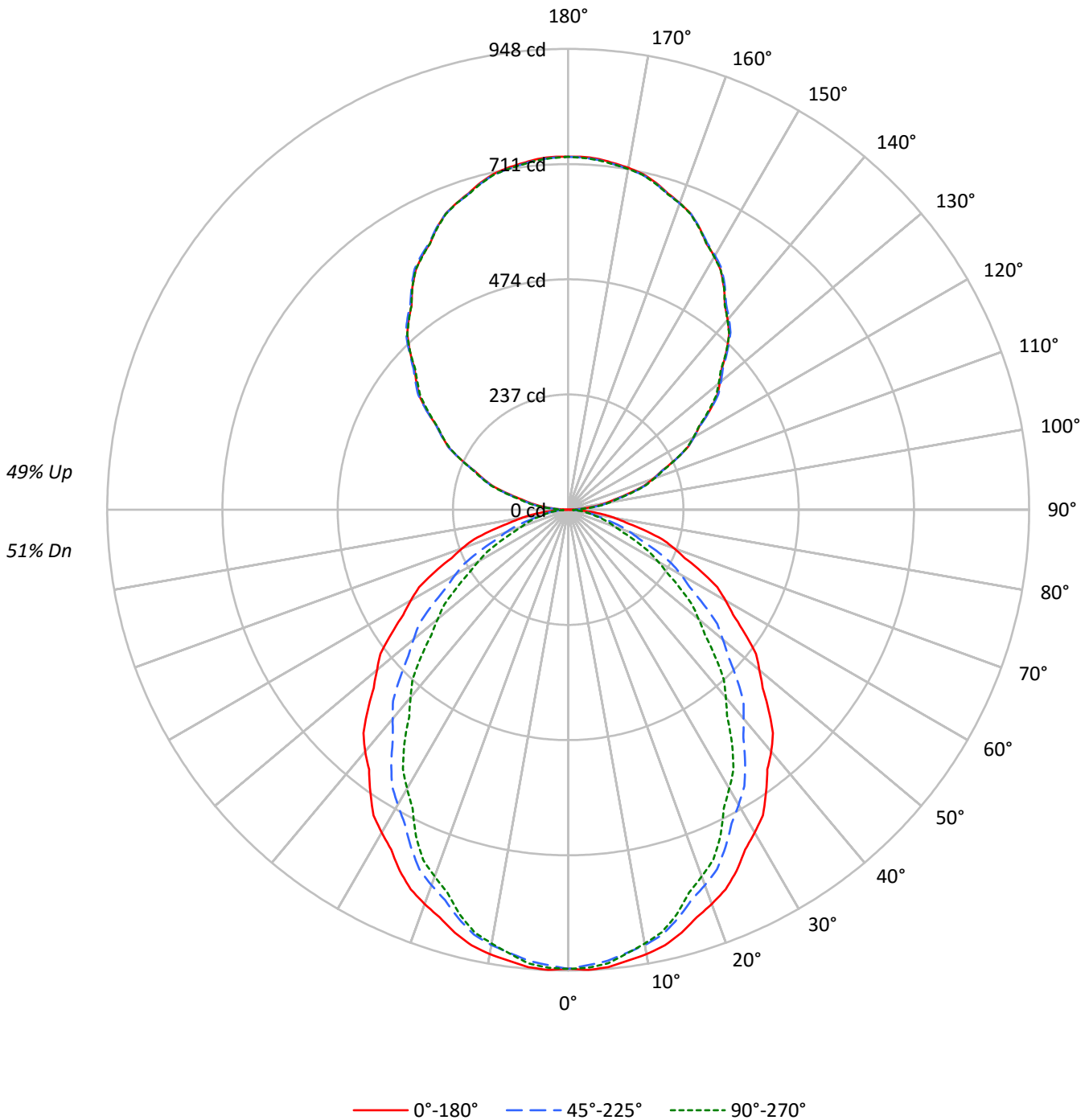
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	51	50	49	44
2	90	83	77	72	83	77	72	67	65	62	58	55	52	50	46	44	42	37
3	82	73	66	60	76	68	61	56	58	53	49	49	46	43	41	38	36	32
4	75	65	57	51	69	60	53	48	52	47	42	44	40	37	37	34	31	28
5	69	58	50	44	64	54	47	42	46	41	37	40	35	32	33	30	27	24
6	64	52	44	38	59	49	41	36	42	36	32	36	32	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	33	28	33	28	25	28	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	22	25	22	20	17
9	51	39	32	27	47	37	30	25	32	27	23	28	23	20	23	20	18	16
10	48	36	29	24	44	34	27	23	30	24	21	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10167	10167	10167
5°	10205	10065	10122
10°	10147	9939	9905
15°	10038	9706	9604
20°	9889	9415	9196
25°	9734	9089	8797
30°	9531	8712	8236
35°	9320	8335	7720
40°	9128	7890	7082
45°	8873	7451	6506
50°	8594	6953	5863
55°	8310	6382	5262
60°	8047	5772	4600
65°	7707	5112	3940
70°	7279	4293	3182
75°	6658	3377	2994
80°	5938	2994	2752
85°	5014	2643	2458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	2.1
10°-20°	246.8	5.9
20°-30°	355.3	8.6
30°-40°	400.3	9.7
40°-50°	382.9	9.2
50°-60°	313.6	7.6
60°-70°	211.6	5.1
70°-80°	106.4	2.6
80°-90°	30.3	0.7
90°-100°	47.3	1.1
100°-110°	141.6	3.4
110°-120°	240.8	5.8
120°-130°	316.7	7.6
130°-140°	356.0	8.6
140°-150°	349.9	8.4
150°-160°	294.6	7.1
160°-170°	196.1	4.7
170°-180°	68.7	1.7
0°-30°	690.8	16.7
0°-40°	1091.1	26.3
0°-60°	1787.6	43.1
0°-90°	2135.9	51.5
90°-120°	429.7	10.4
90°-150°	1452.4	35.0
90°-180°	2012.0	48.5
0°-180°	4147.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	944	940	932	938	937	90
15°	901	892	871	867	862	254
25°	820	800	765	750	741	377
35°	709	681	634	602	588	444
45°	583	547	490	447	427	450
55°	443	404	340	297	280	397
65°	303	259	201	165	155	299
75°	160	123	81	74	72	171
85°	41	25	21	20	20	46
90°	1	6	14	16	17	4
95°	34	38	42	44	44	38
105°	128	130	135	135	136	137
115°	242	244	243	244	243	240
125°	355	356	355	353	351	316
135°	460	464	463	461	460	355
145°	558	560	561	561	558	349
155°	639	639	640	642	638	294
165°	696	695	695	698	694	196
175°	724	722	722	725	722	69
180°	726	726	726	726	726	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	947.6	947.0	946.5	945.9	945.4	944.3	942.7	941.0	939.4	937.8	939.3
5°	944.5	943.7	942.8	942.0	941.1	939.7	937.6	935.6	933.5	931.5	933.0
7.5°	935.8	934.9	933.9	933.0	932.1	930.3	927.7	925.0	922.3	919.7	920.5
10°	928.4	927.2	926.0	924.8	923.7	921.5	918.5	915.4	912.3	909.3	909.4
12.5°	918.0	916.7	915.3	914.0	912.7	910.2	906.4	902.7	898.9	895.2	895.1
15°	900.8	899.0	897.1	895.2	893.4	890.0	885.3	880.5	875.7	871.0	870.1
17.5°	879.2	877.1	874.9	872.7	870.5	866.4	860.3	854.3	848.2	842.2	840.4
20°	863.3	860.6	857.9	855.1	852.4	847.8	841.3	834.9	828.4	821.9	819.7
22.5°	845.5	842.4	839.3	836.1	833.0	828.0	821.1	814.2	807.4	800.5	797.7
25°	819.6	815.4	811.1	806.9	802.6	796.6	788.7	780.9	773.1	765.3	761.7
27.5°	788.2	783.5	778.8	774.1	769.4	762.7	754.0	745.3	736.6	727.9	722.9
30°	766.8	761.7	756.6	751.5	746.4	739.0	729.5	720.0	710.4	700.9	695.1
32.5°	745.3	739.6	733.8	728.0	722.2	714.3	704.2	694.1	684.0	673.9	667.6
35°	709.3	703.2	697.1	691.0	684.8	676.5	665.9	655.4	644.8	634.3	626.9
37.5°	672.9	666.1	659.3	652.4	645.6	636.6	625.3	614.1	602.8	591.5	583.2
40°	649.6	642.1	634.6	627.1	619.6	609.8	597.8	585.7	573.6	561.5	552.6
42.5°	623.2	615.7	608.3	600.8	593.3	583.3	570.8	558.3	545.8	533.3	523.6
45°	582.9	575.3	567.6	560.0	552.3	541.9	528.8	515.7	502.6	489.5	479.8
47.5°	542.6	534.2	525.8	517.4	509.0	498.3	485.1	472.0	458.9	445.8	435.3
50°	513.2	505.2	497.2	489.2	481.2	470.3	456.5	442.8	429.0	415.2	404.6
52.5°	486.9	478.2	469.5	460.8	452.2	441.0	427.3	413.7	400.0	386.4	375.4
55°	442.8	434.4	426.1	417.7	409.4	398.0	383.5	369.1	354.6	340.1	330.2
57.5°	402.0	392.9	383.8	374.7	365.6	353.8	339.3	324.8	310.2	295.7	286.4
60°	373.8	364.5	355.1	345.7	336.4	324.6	310.5	296.4	282.2	268.1	258.9
62.5°	345.6	336.3	326.9	317.5	308.2	296.4	282.3	268.2	254.0	239.9	231.3
65°	302.6	293.2	283.9	274.5	265.1	253.8	240.5	227.3	214.0	200.7	192.4
67.5°	259.5	250.1	240.6	231.1	221.7	210.6	197.8	185.1	172.4	159.6	153.4
70°	231.3	222.1	213.0	203.8	194.6	184.0	172.1	160.2	148.3	136.4	130.4
72.5°	203.1	194.1	185.0	176.0	166.9	157.0	146.2	135.3	124.5	113.7	108.8
75°	160.1	151.9	143.8	135.6	127.4	118.6	109.3	99.9	90.6	81.2	79.5
77.5°	120.9	113.5	106.1	98.7	91.3	84.6	78.6	72.6	66.5	60.5	59.6
80°	95.8	88.8	81.8	74.8	67.8	62.6	59.0	55.4	51.8	48.3	47.7
82.5°	71.9	65.8	59.8	53.8	47.7	43.9	42.2	40.6	38.9	37.2	36.7
85°	40.6	36.9	33.1	29.4	25.6	23.5	23.0	22.5	22.0	21.4	21.1
87.5°	14.8	13.6	12.3	11.1	9.8	9.4	9.7	10.0	10.4	10.7	10.7
90°	0.6	1.8	3.1	4.4	5.6	7.1	8.7	10.4	12.0	13.7	14.2
92.5°	13.8	14.7	15.5	16.4	17.3	18.2	19.1	20.0	21.0	21.9	22.3
95°	33.7	34.5	35.4	36.3	37.2	38.2	39.2	40.2	41.2	42.2	42.7
97.5°	59.8	60.4	61.1	61.8	62.4	63.1	63.8	64.6	65.3	66.1	66.6
100°	77.6	78.3	79.1	79.9	80.6	81.3	81.9	82.6	83.2	83.8	84.2
102.5°	98.1	98.6	99.0	99.5	99.9	100.6	101.4	102.3	103.1	103.9	104.3
105°	128.3	128.6	128.8	129.1	129.4	130.0	131.2	132.3	133.5	134.6	134.6
107.5°	163.5	163.6	163.8	163.9	164.1	164.4	164.8	165.3	165.8	166.2	166.6
110°	185.4	185.6	185.9	186.1	186.4	186.6	186.9	187.2	187.4	187.7	188.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	208.2	208.3	208.5	208.6	208.8	208.9	209.0	209.0	209.1	209.1	209.7
115°	242.4	242.8	243.2	243.6	243.9	244.0	243.7	243.5	243.2	243.0	243.1
117.5°	276.9	277.1	277.4	277.6	277.9	277.8	277.5	277.2	276.9	276.5	276.5
120°	298.3	299.1	299.8	300.6	301.4	301.4	300.8	300.2	299.5	298.9	298.8
122.5°	320.7	321.2	321.8	322.3	322.9	323.0	322.7	322.4	322.0	321.7	321.4
125°	354.8	355.2	355.5	355.9	356.3	356.4	356.1	355.9	355.6	355.4	354.8
127.5°	386.3	387.1	387.9	388.7	389.5	389.8	389.5	389.2	388.9	388.7	388.0
130°	407.3	408.3	409.3	410.3	411.3	411.6	411.3	410.9	410.5	410.1	409.6
132.5°	428.2	429.3	430.3	431.3	432.3	432.7	432.4	432.1	431.8	431.6	430.9
135°	460.3	461.1	461.8	462.6	463.3	463.7	463.5	463.4	463.3	463.2	462.7
137.5°	490.0	490.6	491.2	491.9	492.5	493.0	493.3	493.6	494.0	494.3	493.8
140°	510.5	511.1	511.8	512.4	513.0	513.4	513.5	513.7	513.8	513.9	513.8
142.5°	529.2	529.8	530.5	531.1	531.7	532.2	532.4	532.6	532.9	533.1	533.0
145°	558.4	558.7	558.9	559.2	559.4	559.7	560.1	560.5	560.9	561.3	561.1
147.5°	584.0	584.4	584.9	585.3	585.8	586.2	586.6	586.9	587.3	587.6	587.6
150°	601.8	602.0	602.3	602.5	602.8	603.0	603.3	603.5	603.8	604.0	604.0
152.5°	616.4	616.7	617.1	617.4	617.8	618.0	618.2	618.3	618.5	618.6	618.8
155°	639.4	639.4	639.4	639.4	639.4	639.5	639.6	639.7	639.9	640.0	640.5
157.5°	659.0	658.9	658.7	658.6	658.4	658.4	658.5	658.6	658.7	658.8	659.3
160°	671.3	671.1	670.8	670.6	670.3	670.2	670.2	670.2	670.2	670.2	670.8
162.5°	682.3	681.9	681.6	681.2	680.9	680.8	680.9	681.0	681.1	681.2	681.8
165°	696.4	696.1	695.7	695.3	694.9	694.7	694.7	694.7	694.7	694.7	695.5
167.5°	707.7	707.2	706.7	706.2	705.7	705.5	705.6	705.7	705.8	705.9	706.7
170°	714.1	713.6	713.1	712.6	712.1	711.8	711.8	711.8	711.8	711.8	712.7
172.5°	719.1	718.6	718.1	717.6	717.1	716.9	716.9	716.9	716.9	716.9	717.7
175°	724.4	723.9	723.4	722.9	722.4	722.1	722.1	722.1	722.1	722.1	722.9
177.5°	726.6	726.2	725.8	725.3	724.9	724.7	724.7	724.7	724.7	724.7	725.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	940.8	942.3	943.8	944.4	944.1	943.8	943.6	943.3
5°	934.5	936.1	937.6	938.2	937.9	937.5	937.2	936.8
7.5°	921.4	922.2	923.1	923.2	922.6	922.1	921.5	920.9
10°	909.6	909.8	909.9	909.6	908.8	907.9	907.1	906.2
12.5°	895.0	894.9	894.8	894.2	893.2	892.2	891.3	890.3
15°	869.3	868.4	867.6	866.5	865.3	864.2	863.0	861.8
17.5°	838.6	836.8	834.9	833.2	831.4	829.6	827.8	826.1
20°	817.5	815.3	813.1	811.0	808.9	806.9	804.8	802.8
22.5°	795.0	792.2	789.5	787.1	785.2	783.3	781.4	779.5
25°	758.1	754.5	751.0	748.2	746.4	744.5	742.6	740.7
27.5°	717.9	713.0	708.0	704.1	701.2	698.4	695.5	692.6
30°	689.3	683.5	677.8	673.5	670.8	668.1	665.3	662.6
32.5°	661.3	654.9	648.6	644.0	641.2	638.3	635.4	632.6
35°	619.6	612.3	605.0	599.8	596.7	593.7	590.6	587.5
37.5°	574.9	566.6	558.3	552.3	548.5	544.7	540.9	537.1
40°	543.8	534.9	526.1	519.7	515.8	511.9	508.0	504.0
42.5°	514.0	504.3	494.6	488.0	484.5	481.0	477.5	474.0
45°	470.1	460.4	450.7	443.8	439.7	435.6	431.5	427.4
47.5°	424.7	414.2	403.6	396.5	392.9	389.2	385.6	381.9
50°	394.1	383.5	373.0	365.7	361.8	357.9	354.0	350.1
52.5°	364.5	353.5	342.5	335.3	331.8	328.3	324.8	321.3
55°	320.4	310.5	300.6	294.0	290.6	287.2	283.8	280.4
57.5°	277.0	267.7	258.4	252.3	249.4	246.5	243.6	240.7
60°	249.7	240.5	231.3	225.3	222.4	219.5	216.6	213.7
62.5°	222.6	214.0	205.3	199.5	196.5	193.4	190.4	187.4
65°	184.0	175.7	167.3	162.2	160.4	158.5	156.6	154.7
67.5°	147.2	140.9	134.7	130.6	128.6	126.6	124.6	122.6
70°	124.4	118.5	112.5	108.6	106.7	104.9	103.0	101.1
72.5°	103.9	99.1	94.2	91.4	90.6	89.8	89.0	88.2
75°	77.8	76.1	74.4	73.4	73.0	72.7	72.3	72.0
77.5°	58.7	57.8	56.8	56.2	55.9	55.5	55.2	54.8
80°	47.2	46.7	46.2	45.8	45.5	45.1	44.8	44.4
82.5°	36.2	35.7	35.2	34.9	34.8	34.8	34.7	34.6
85°	20.8	20.4	20.1	19.9	19.9	19.9	19.9	19.9
87.5°	10.6	10.6	10.6	10.5	10.4	10.3	10.2	10.2
90°	14.7	15.2	15.7	16.1	16.4	16.6	16.9	17.1
92.5°	22.7	23.1	23.5	23.7	23.5	23.3	23.2	23.0
95°	43.2	43.7	44.2	44.5	44.5	44.5	44.5	44.5
97.5°	67.2	67.8	68.4	68.6	68.6	68.5	68.5	68.4
100°	84.6	85.0	85.4	85.7	85.9	86.2	86.4	86.7
102.5°	104.7	105.1	105.4	105.6	105.6	105.5	105.5	105.4
105°	134.6	134.6	134.6	134.7	135.0	135.2	135.5	135.8
107.5°	167.0	167.4	167.8	168.0	167.8	167.7	167.5	167.4
110°	188.7	189.2	189.7	189.8	189.6	189.3	189.1	188.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	210.3	210.9	211.5	211.8	211.8	211.7	211.7	211.6
115°	243.2	243.4	243.5	243.5	243.4	243.2	243.1	243.0
117.5°	276.5	276.4	276.4	276.2	275.9	275.5	275.2	274.8
120°	298.6	298.5	298.4	298.2	297.9	297.7	297.4	297.2
122.5°	321.0	320.7	320.4	320.0	319.7	319.3	319.0	318.6
125°	354.3	353.8	353.3	352.8	352.3	351.8	351.3	350.8
127.5°	387.2	386.5	385.8	385.2	384.6	384.0	383.4	382.8
130°	409.1	408.6	408.1	407.4	406.5	405.6	404.7	403.8
132.5°	430.3	429.7	429.1	428.5	427.8	427.1	426.4	425.7
135°	462.1	461.6	461.1	460.7	460.5	460.2	460.0	459.7
137.5°	493.2	492.7	492.2	491.7	491.2	490.7	490.2	489.7
140°	513.7	513.5	513.4	512.9	512.0	511.1	510.2	509.4
142.5°	532.8	532.7	532.6	532.2	531.5	530.8	530.1	529.4
145°	561.0	560.9	560.8	560.4	559.9	559.4	558.9	558.4
147.5°	587.6	587.6	587.6	587.2	586.5	585.7	585.0	584.2
150°	604.0	604.0	604.0	603.7	602.9	602.1	601.4	600.6
152.5°	619.1	619.3	619.5	619.2	618.6	617.9	617.3	616.6
155°	641.0	641.5	642.0	641.8	640.9	640.0	639.2	638.3
157.5°	659.9	660.4	660.9	660.8	660.1	659.4	658.7	658.0
160°	671.5	672.1	672.7	672.8	672.3	671.8	671.3	670.8
162.5°	682.4	683.1	683.7	683.6	682.8	682.0	681.2	680.4
165°	696.3	697.0	697.8	697.7	696.8	695.9	695.1	694.2
167.5°	707.5	708.3	709.1	709.1	708.3	707.5	706.7	705.9
170°	713.6	714.5	715.4	715.4	714.5	713.6	712.7	711.8
172.5°	718.4	719.2	720.0	720.0	719.1	718.2	717.3	716.4
175°	723.6	724.4	725.2	725.1	724.2	723.3	722.4	721.5
177.5°	726.0	726.6	727.2	727.1	726.4	725.7	725.0	724.3
180°	726.1	726.1	726.1	726.1	726.1	726.1	726.1	726.1

(END OF REPORT)