

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: P332280-940

Luminaire Tested: **S123RDIP-S560D585U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332280-940
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-S560D585U940-4F0-1E-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: 3698.5 lumens
Efficiency: N/A
Efficacy: 112.8 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

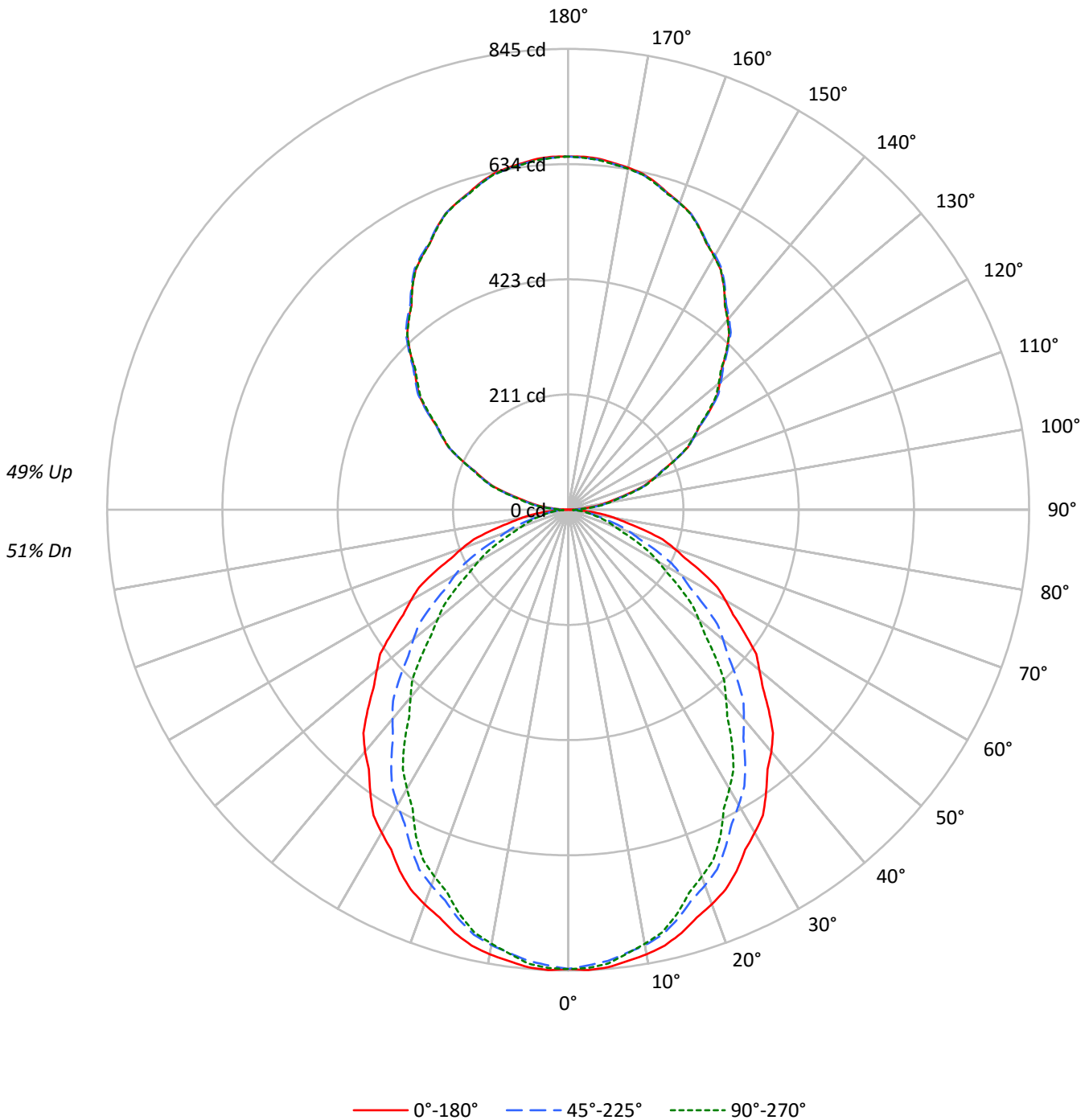
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	9065	9065	9065
5°	9100	8975	9027
10°	9049	8862	8833
15°	8952	8655	8564
20°	8818	8395	8200
25°	8679	8105	7845
30°	8499	7768	7343
35°	8311	7432	6884
40°	8140	7035	6315
45°	7913	6645	5801
50°	7663	6199	5228
55°	7409	5692	4692
60°	7175	5147	4103
65°	6872	4559	3512
70°	6493	3827	2839
75°	5939	3011	2670
80°	5294	2672	2455
85°	4471	2359	2186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.1	2.1
10°-20°	220.1	5.9
20°-30°	316.9	8.6
30°-40°	356.9	9.7
40°-50°	341.4	9.2
50°-60°	279.6	7.6
60°-70°	188.7	5.1
70°-80°	94.9	2.6
80°-90°	27.0	0.7
90°-100°	42.2	1.1
100°-110°	126.2	3.4
110°-120°	214.7	5.8
120°-130°	282.4	7.6
130°-140°	317.5	8.6
140°-150°	312.1	8.4
150°-160°	262.7	7.1
160°-170°	174.9	4.7
170°-180°	61.2	1.7
0°-30°	616.0	16.7
0°-40°	972.9	26.3
0°-60°	1594.0	43.1
0°-90°	1904.6	51.5
90°-120°	383.2	10.4
90°-150°	1295.1	35.0
90°-180°	1794.0	48.5
0°-180°	3698.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	842	842	842	842	842	
5°	842	839	831	836	835	80
15°	803	795	777	773	768	226
25°	731	713	682	668	660	336
35°	632	607	566	537	524	396
45°	520	488	436	399	381	401
55°	395	360	303	265	250	354
65°	270	231	179	147	138	267
75°	143	110	72	66	64	152
85°	36	22	19	18	18	41
90°	0	6	12	14	15	4
95°	30	34	38	40	40	34
105°	114	116	120	120	121	123
115°	216	218	217	217	217	214
125°	316	318	317	315	313	282
135°	410	413	413	411	410	316
145°	498	499	500	500	498	311
155°	570	570	571	572	569	262
165°	621	620	620	622	619	175
175°	646	644	644	647	643	61
180°	648	648	648	648	648	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	845.0	844.5	844.0	843.5	843.0	842.0	840.6	839.1	837.7	836.2	837.6
5°	842.2	841.5	840.7	840.0	839.2	837.9	836.1	834.3	832.4	830.6	832.0
7.5°	834.5	833.7	832.8	832.0	831.2	829.6	827.2	824.8	822.4	820.1	820.8
10°	827.9	826.8	825.7	824.7	823.7	821.7	819.0	816.3	813.5	810.8	810.9
12.5°	818.6	817.4	816.2	815.0	813.9	811.6	808.2	804.9	801.6	798.3	798.2
15°	803.3	801.6	800.0	798.3	796.7	793.6	789.4	785.2	780.9	776.7	775.9
17.5°	784.0	782.1	780.2	778.2	776.2	772.6	767.1	761.8	756.3	751.0	749.4
20°	769.8	767.4	765.0	762.5	760.1	756.0	750.2	744.5	738.7	732.9	730.9
22.5°	753.9	751.2	748.4	745.6	742.8	738.3	732.2	726.0	720.0	713.8	711.3
25°	730.8	727.1	723.3	719.5	715.7	710.3	703.3	696.3	689.4	682.4	679.2
27.5°	702.8	698.7	694.5	690.3	686.1	680.1	672.3	664.6	656.8	649.1	644.6
30°	683.8	679.2	674.7	670.1	665.6	659.0	650.5	642.0	633.5	625.0	619.8
32.5°	664.6	659.5	654.3	649.2	644.0	636.9	627.9	618.9	609.9	600.9	595.3
35°	632.5	627.1	621.6	616.2	610.6	603.2	593.8	584.4	575.0	565.6	559.0
37.5°	600.0	594.0	587.9	581.8	575.7	567.7	557.6	547.6	537.5	527.4	520.0
40°	579.3	572.6	565.9	559.2	552.5	543.8	533.1	522.3	511.5	500.7	492.8
42.5°	555.7	549.0	542.4	535.7	529.1	520.1	509.0	497.8	486.7	475.5	466.9
45°	519.8	513.0	506.1	499.4	492.5	483.2	471.5	459.9	448.2	436.5	427.8
47.5°	483.8	476.4	468.9	461.4	453.9	444.3	432.6	420.9	409.2	397.5	388.2
50°	457.6	450.5	443.4	436.2	429.1	419.4	407.1	394.8	382.5	370.2	360.8
52.5°	434.2	426.4	418.7	410.9	403.2	393.2	381.0	368.9	356.7	344.6	334.7
55°	394.8	387.4	380.0	372.5	365.1	354.9	342.0	329.1	316.2	303.3	294.4
57.5°	358.5	350.4	342.2	334.1	326.0	315.5	302.6	289.6	276.6	263.7	255.4
60°	333.3	325.0	316.6	308.3	300.0	289.4	276.9	264.3	251.6	239.1	230.9
62.5°	308.2	299.9	291.5	283.1	274.8	264.3	251.7	239.2	226.5	213.9	206.3
65°	269.8	261.4	253.2	244.8	236.4	226.3	214.5	202.7	190.8	179.0	171.6
67.5°	231.4	223.0	214.5	206.1	197.7	187.8	176.4	165.1	153.7	142.3	136.8
70°	206.3	198.0	189.9	181.7	173.5	164.1	153.5	142.9	132.2	121.6	116.3
72.5°	181.1	173.1	165.0	156.9	148.8	140.0	130.4	120.6	111.0	101.4	97.0
75°	142.8	135.5	128.2	120.9	113.6	105.8	97.5	89.1	80.8	72.4	70.9
77.5°	107.8	101.2	94.6	88.0	81.4	75.4	70.1	64.7	59.3	53.9	53.1
80°	85.4	79.2	72.9	66.7	60.5	55.8	52.6	49.4	46.2	43.1	42.5
82.5°	64.1	58.7	53.3	48.0	42.5	39.1	37.6	36.2	34.7	33.2	32.7
85°	36.2	32.9	29.5	26.2	22.8	21.0	20.5	20.1	19.6	19.1	18.8
87.5°	13.2	12.1	11.0	9.9	8.7	8.4	8.6	8.9	9.3	9.5	9.5
90°	0.5	1.6	2.8	3.9	5.0	6.3	7.8	9.3	10.7	12.2	12.7
92.5°	12.3	13.1	13.8	14.6	15.4	16.2	17.0	17.8	18.7	19.5	19.9
95°	30.1	30.8	31.6	32.4	33.2	34.1	35.0	35.8	36.7	37.6	38.1
97.5°	53.3	53.9	54.5	55.1	55.6	56.3	56.9	57.6	58.2	58.9	59.4
100°	69.2	69.8	70.5	71.2	71.9	72.5	73.0	73.7	74.2	74.7	75.1
102.5°	87.5	87.9	88.3	88.7	89.1	89.7	90.4	91.2	91.9	92.6	93.0
105°	114.4	114.7	114.9	115.1	115.4	115.9	117.0	118.0	119.0	120.0	120.0
107.5°	145.8	145.9	146.1	146.2	146.3	146.6	147.0	147.4	147.8	148.2	148.6
110°	165.3	165.5	165.8	165.9	166.2	166.4	166.7	166.9	167.1	167.4	167.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	185.7	185.7	185.9	186.0	186.2	186.3	186.4	186.4	186.5	186.5	187.0
115°	216.2	216.5	216.9	217.2	217.5	217.6	217.3	217.1	216.9	216.7	216.8
117.5°	246.9	247.1	247.4	247.5	247.8	247.7	247.4	247.2	246.9	246.6	246.6
120°	266.0	266.7	267.3	268.0	268.8	268.8	268.2	267.7	267.1	266.5	266.4
122.5°	286.0	286.4	287.0	287.4	287.9	288.0	287.8	287.5	287.1	286.9	286.6
125°	316.4	316.7	317.0	317.4	317.7	317.8	317.5	317.4	317.1	316.9	316.4
127.5°	344.5	345.2	345.9	346.6	347.3	347.6	347.3	347.1	346.8	346.6	346.0
130°	363.2	364.1	365.0	365.9	366.8	367.0	366.8	366.4	366.0	365.7	365.2
132.5°	381.8	382.8	383.7	384.6	385.5	385.8	385.6	385.3	385.0	384.9	384.2
135°	410.5	411.2	411.8	412.5	413.1	413.5	413.3	413.2	413.1	413.0	412.6
137.5°	436.9	437.5	438.0	438.6	439.2	439.6	439.9	440.1	440.5	440.8	440.3
140°	455.2	455.8	456.4	456.9	457.4	457.8	457.9	458.1	458.2	458.3	458.2
142.5°	471.9	472.4	473.1	473.6	474.1	474.6	474.7	474.9	475.2	475.4	475.3
145°	497.9	498.2	498.4	498.6	498.8	499.1	499.4	499.8	500.2	500.5	500.3
147.5°	520.8	521.1	521.6	521.9	522.4	522.7	523.1	523.3	523.7	524.0	524.0
150°	536.6	536.8	537.1	537.3	537.5	537.7	538.0	538.1	538.4	538.6	538.6
152.5°	549.7	549.9	550.3	550.5	550.9	551.1	551.3	551.3	551.5	551.6	551.8
155°	570.2	570.2	570.2	570.2	570.2	570.2	570.3	570.4	570.6	570.7	571.1
157.5°	587.6	587.5	587.4	587.3	587.1	587.1	587.2	587.3	587.4	587.5	587.9
160°	598.6	598.4	598.2	598.0	597.7	597.6	597.6	597.6	597.6	597.6	598.2
162.5°	608.4	608.1	607.8	607.4	607.2	607.1	607.2	607.3	607.3	607.4	608.0
165°	621.0	620.7	620.4	620.0	619.6	619.5	619.5	619.5	619.5	619.5	620.2
167.5°	631.1	630.6	630.2	629.7	629.3	629.1	629.2	629.3	629.4	629.5	630.2
170°	636.8	636.3	635.9	635.4	635.0	634.7	634.7	634.7	634.7	634.7	635.5
172.5°	641.2	640.8	640.3	639.9	639.4	639.3	639.3	639.3	639.3	639.3	640.0
175°	646.0	645.5	645.1	644.6	644.2	643.9	643.9	643.9	643.9	643.9	644.6
177.5°	647.9	647.6	647.2	646.8	646.4	646.2	646.2	646.2	646.2	646.2	646.8
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	842.2	842.2	842.2	842.2	842.2	842.2	842.2	842.2
2.5°	838.9	840.3	841.6	842.1	841.9	841.6	841.4	841.2
5°	833.3	834.7	836.1	836.6	836.3	836.0	835.7	835.4
7.5°	821.6	822.3	823.1	823.2	822.7	822.2	821.7	821.2
10°	811.1	811.3	811.4	811.1	810.4	809.6	808.9	808.1
12.5°	798.1	798.0	797.9	797.4	796.5	795.6	794.8	793.9
15°	775.2	774.4	773.6	772.7	771.6	770.6	769.5	768.5
17.5°	747.8	746.2	744.5	743.0	741.4	739.8	738.2	736.6
20°	729.0	727.0	725.1	723.2	721.3	719.5	717.6	715.9
22.5°	708.9	706.4	704.0	701.9	700.2	698.5	696.8	695.1
25°	676.0	672.8	669.7	667.2	665.6	663.9	662.2	660.5
27.5°	640.2	635.8	631.3	627.9	625.3	622.8	620.2	617.6
30°	614.7	609.5	604.4	600.6	598.2	595.8	593.3	590.8
32.5°	589.7	584.0	578.4	574.3	571.8	569.2	566.6	564.1
35°	552.5	546.0	539.5	534.8	532.1	529.4	526.6	523.9
37.5°	512.6	505.2	497.8	492.5	489.1	485.7	482.3	478.9
40°	484.9	477.0	469.1	463.4	459.9	456.5	453.0	449.4
42.5°	458.3	449.7	441.0	435.2	432.0	428.9	425.8	422.7
45°	419.2	410.5	401.9	395.7	392.1	388.4	384.8	381.1
47.5°	378.7	369.3	359.9	353.6	350.4	347.1	343.8	340.5
50°	351.4	342.0	332.6	326.1	322.6	319.1	315.7	312.2
52.5°	325.0	315.2	305.4	299.0	295.9	292.7	289.6	286.5
55°	285.7	276.9	268.0	262.2	259.1	256.1	253.1	250.0
57.5°	247.0	238.7	230.4	225.0	222.4	219.8	217.2	214.6
60°	222.7	214.5	206.3	200.9	198.3	195.7	193.1	190.6
62.5°	198.5	190.8	183.1	177.9	175.2	172.5	169.8	167.1
65°	164.1	156.7	149.2	144.6	143.0	141.3	139.6	137.9
67.5°	131.3	125.6	120.1	116.5	114.7	112.9	111.1	109.3
70°	110.9	105.7	100.3	96.8	95.1	93.5	91.8	90.2
72.5°	92.6	88.4	84.0	81.5	80.8	80.1	79.4	78.6
75°	69.4	67.9	66.3	65.5	65.1	64.8	64.5	64.2
77.5°	52.3	51.5	50.6	50.1	49.8	49.5	49.2	48.9
80°	42.1	41.6	41.2	40.8	40.6	40.2	39.9	39.6
82.5°	32.3	31.8	31.4	31.1	31.0	31.0	30.9	30.9
85°	18.5	18.2	17.9	17.7	17.7	17.7	17.7	17.7
87.5°	9.5	9.5	9.5	9.4	9.3	9.2	9.1	9.1
90°	13.1	13.6	14.0	14.4	14.6	14.8	15.1	15.2
92.5°	20.2	20.6	21.0	21.1	21.0	20.8	20.7	20.5
95°	38.5	39.0	39.4	39.7	39.7	39.7	39.7	39.7
97.5°	59.9	60.5	61.0	61.2	61.2	61.1	61.1	61.0
100°	75.4	75.8	76.2	76.4	76.6	76.9	77.0	77.3
102.5°	93.4	93.7	94.0	94.2	94.2	94.1	94.1	94.0
105°	120.0	120.0	120.0	120.1	120.4	120.6	120.8	121.1
107.5°	148.9	149.3	149.6	149.8	149.6	149.5	149.4	149.3
110°	168.3	168.7	169.2	169.2	169.1	168.8	168.6	168.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	187.5	188.1	188.6	188.9	188.9	188.8	188.8	188.7
115°	216.9	217.0	217.1	217.1	217.0	216.9	216.8	216.7
117.5°	246.6	246.5	246.5	246.3	246.0	245.7	245.4	245.0
120°	266.3	266.2	266.1	265.9	265.6	265.5	265.2	265.0
122.5°	286.2	286.0	285.7	285.3	285.1	284.7	284.5	284.1
125°	315.9	315.5	315.0	314.6	314.1	313.7	313.3	312.8
127.5°	345.3	344.6	344.0	343.5	343.0	342.4	341.9	341.3
130°	364.8	364.4	363.9	363.3	362.5	361.7	360.9	360.1
132.5°	383.7	383.2	382.6	382.1	381.5	380.8	380.2	379.6
135°	412.1	411.6	411.2	410.8	410.6	410.4	410.2	409.9
137.5°	439.8	439.3	438.9	438.5	438.0	437.6	437.1	436.7
140°	458.1	457.9	457.8	457.4	456.6	455.8	455.0	454.2
142.5°	475.1	475.0	474.9	474.6	473.9	473.3	472.7	472.1
145°	500.2	500.2	500.1	499.7	499.3	498.8	498.4	497.9
147.5°	524.0	524.0	524.0	523.6	523.0	522.3	521.7	520.9
150°	538.6	538.6	538.6	538.3	537.6	536.9	536.3	535.6
152.5°	552.1	552.2	552.4	552.1	551.6	551.0	550.5	549.8
155°	571.6	572.0	572.5	572.3	571.5	570.7	570.0	569.2
157.5°	588.4	588.9	589.3	589.2	588.6	588.0	587.4	586.7
160°	598.8	599.3	599.9	599.9	599.5	599.1	598.6	598.2
162.5°	608.5	609.1	609.7	609.6	608.9	608.1	607.4	606.7
165°	620.9	621.5	622.2	622.1	621.3	620.5	619.8	619.0
167.5°	630.9	631.6	632.3	632.3	631.6	630.9	630.2	629.5
170°	636.3	637.1	637.9	637.9	637.1	636.3	635.5	634.7
172.5°	640.6	641.3	642.0	642.0	641.2	640.4	639.6	638.8
175°	645.2	646.0	646.7	646.6	645.8	645.0	644.2	643.4
177.5°	647.4	647.9	648.5	648.4	647.7	647.1	646.5	645.9
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5

(END OF REPORT)