

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: P332905-940

Luminaire Tested: **S124RDIP-S575D590U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332905-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S575D590U940-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3920.2 lumens
Efficiency: N/A
Efficacy: 119.5 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: General Diffuse

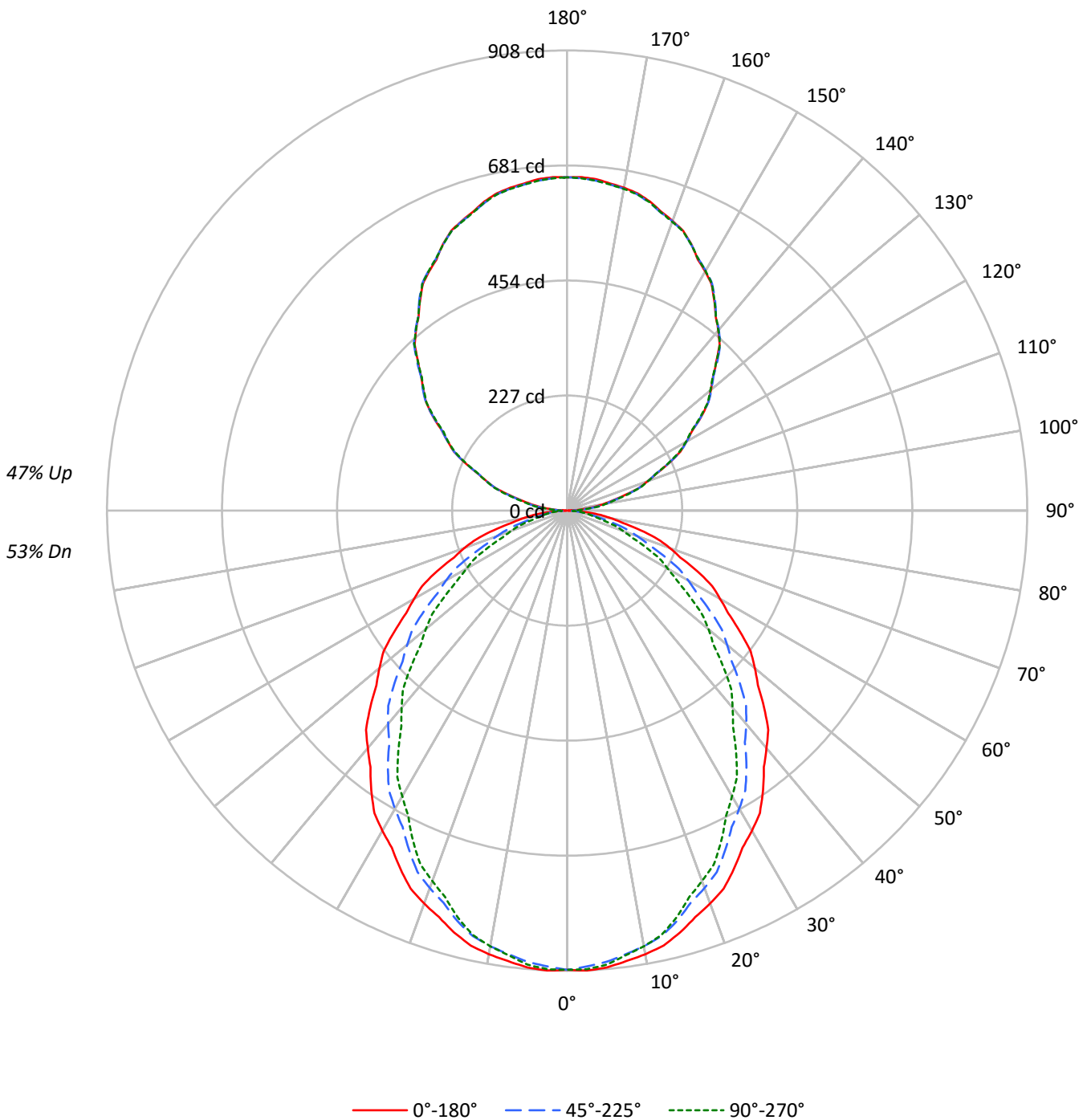
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59	53
1	99	95	91	87	91	88	85	82	75	73	71	64	62	60	53	52	51	46
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43	39
3	82	73	66	60	76	68	62	57	59	54	50	50	46	43	42	39	37	33
4	76	65	57	51	70	61	54	48	52	47	43	45	41	37	37	35	32	29
5	69	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28	25
6	64	52	44	38	59	49	42	36	42	37	32	36	32	29	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	20
8	55	43	35	30	51	40	33	28	35	30	26	30	26	23	26	23	20	18
9	51	39	32	27	48	37	30	25	32	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7316	7316	7316
5°	7332	7243	7288
10°	7287	7156	7156
15°	7203	7005	6954
20°	7088	6808	6682
25°	6942	6576	6409
30°	6797	6332	6068
35°	6640	6080	5724
40°	6450	5792	5352
45°	6275	5505	4975
50°	6075	5176	4575
55°	5859	4835	4141
60°	5624	4459	3697
65°	5408	3989	3261
70°	5094	3472	2769
75°	4697	2879	2249
80°	4096	2194	2064
85°	3473	1991	1871



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.1	2.2
10°-20°	237.4	6.1
20°-30°	342.8	8.7
30°-40°	388.6	9.9
40°-50°	375.2	9.6
50°-60°	312.0	8.0
60°-70°	215.4	5.5
70°-80°	109.2	2.8
80°-90°	30.0	0.8
90°-100°	43.4	1.1
100°-110°	128.5	3.3
110°-120°	218.1	5.6
120°-130°	287.6	7.3
130°-140°	322.9	8.2
140°-150°	317.3	8.1
150°-160°	266.9	6.8
160°-170°	177.6	4.5
170°-180°	62.2	1.6
0°-30°	665.3	17.0
0°-40°	1053.9	26.9
0°-60°	1741.1	44.4
0°-90°	2095.7	53.5
90°-120°	389.9	9.9
90°-150°	1317.8	33.6
90°-180°	1824.0	46.5
0°-180°	3920.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	906	906	906	906	906	
5°	905	902	894	900	899	86
15°	862	855	838	837	832	243
25°	779	766	738	727	720	359
35°	674	651	617	594	581	421
45°	550	523	482	449	436	424
55°	416	388	344	309	294	372
65°	283	252	209	180	171	279
75°	151	125	92	77	72	159
85°	38	24	22	20	20	42
90°	2	7	11	14	15	4
95°	30	35	39	40	40	34
105°	118	119	121	123	124	126
115°	222	222	221	220	220	219
125°	323	323	322	321	320	288
135°	416	419	420	419	417	322
145°	506	508	508	508	507	317
155°	580	580	579	581	579	267
165°	631	630	629	631	630	178
175°	657	654	654	657	654	62
180°	658	658	658	658	658	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2
2.5°	908.5	907.9	907.5	907.0	906.5	905.5	904.2	902.9	901.4	900.1	901.4
5°	904.8	904.2	903.6	902.9	902.4	901.2	899.3	897.4	895.5	893.8	895.3
7.5°	896.6	896.0	895.4	894.7	894.0	892.5	890.1	887.7	885.3	882.9	883.9
10°	888.9	888.1	887.3	886.5	885.8	884.0	881.3	878.4	875.7	872.9	873.5
12.5°	878.9	878.0	877.1	876.2	875.3	873.3	870.0	866.7	863.4	860.1	860.5
15°	861.8	860.4	859.1	857.6	856.2	853.6	849.8	846.0	842.0	838.2	837.9
17.5°	841.2	839.1	837.1	835.1	833.1	829.8	825.2	820.6	815.9	811.3	810.5
20°	825.0	823.0	821.0	819.0	817.0	813.4	808.2	802.9	797.6	792.5	791.2
22.5°	807.3	805.0	802.8	800.5	798.3	794.3	788.7	783.1	777.5	771.9	770.0
25°	779.3	776.5	773.6	770.9	768.1	763.6	757.2	750.9	744.6	738.3	735.7
27.5°	749.8	746.4	742.9	739.4	735.8	730.8	724.0	717.3	710.5	703.7	700.5
30°	729.2	725.4	721.6	717.7	713.9	708.3	701.1	693.8	686.5	679.3	675.5
32.5°	707.7	703.3	698.9	694.6	690.3	684.3	676.8	669.3	661.8	654.3	649.9
35°	673.8	668.9	663.9	659.0	654.1	647.7	640.0	632.3	624.6	616.9	611.6
37.5°	637.6	632.5	627.4	622.3	617.2	610.4	601.8	593.3	584.8	576.2	570.3
40°	612.0	606.9	601.8	596.7	591.7	584.7	576.0	567.1	558.4	549.6	543.1
42.5°	587.5	582.3	576.9	571.6	566.2	559.0	549.8	540.6	531.5	522.4	515.8
45°	549.6	543.9	538.1	532.4	526.7	519.2	510.0	500.8	491.5	482.2	474.7
47.5°	510.3	504.4	498.5	492.6	486.7	478.9	469.3	459.8	450.1	440.5	432.7
50°	483.7	477.6	471.6	465.6	459.6	451.7	441.8	431.9	422.0	412.1	404.5
52.5°	456.5	450.6	444.7	438.8	432.8	424.9	414.7	404.7	394.5	384.4	376.6
55°	416.3	410.2	404.0	397.8	391.6	383.5	373.5	363.6	353.5	343.5	335.5
57.5°	376.7	370.2	363.8	357.4	351.0	342.9	333.0	323.1	313.3	303.4	295.2
60°	348.3	342.1	336.0	329.8	323.7	315.7	305.8	295.9	286.1	276.2	268.1
62.5°	322.8	316.4	310.0	303.5	297.1	288.9	278.7	268.7	258.5	248.4	241.0
65°	283.1	276.5	269.8	263.2	256.5	248.3	238.4	228.6	218.7	208.8	202.2
67.5°	241.9	235.5	229.2	222.8	216.5	208.7	199.6	190.4	181.3	172.1	166.4
70°	215.8	209.3	202.9	196.4	189.9	182.3	173.4	164.7	155.9	147.1	142.0
72.5°	188.1	182.2	176.3	170.5	164.6	157.6	149.3	141.0	132.6	124.3	120.0
75°	150.6	144.9	139.2	133.5	127.8	121.3	114.0	106.7	99.5	92.3	88.7
77.5°	112.5	107.7	102.9	98.0	93.2	87.8	81.9	76.2	70.3	64.4	62.3
80°	88.1	83.6	79.2	74.7	70.3	65.7	61.1	56.4	51.8	47.2	46.7
82.5°	67.1	63.0	58.9	54.8	50.6	47.3	44.6	41.9	39.3	36.6	36.3
85°	37.5	34.4	31.3	28.2	25.1	23.4	22.9	22.5	21.9	21.5	21.2
87.5°	13.1	12.3	11.6	10.9	10.1	9.8	9.8	9.9	10.0	10.0	10.0
90°	1.5	2.8	4.0	5.3	6.5	7.6	8.5	9.4	10.3	11.1	11.9
92.5°	10.9	12.3	13.7	15.2	16.6	17.6	18.3	18.9	19.5	20.2	20.5
95°	30.5	31.6	32.5	33.5	34.6	35.5	36.3	37.1	37.9	38.6	39.0
97.5°	53.3	54.1	54.9	55.7	56.5	57.4	58.3	59.3	60.2	61.2	61.5
100°	71.2	71.7	72.1	72.6	73.0	73.7	74.7	75.8	76.8	77.8	78.0
102.5°	89.9	90.1	90.2	90.4	90.6	91.2	92.1	93.0	94.0	94.9	95.2
105°	118.5	118.6	118.7	118.9	119.0	119.2	119.7	120.1	120.6	121.0	121.4
107.5°	148.5	148.6	148.7	148.9	149.1	149.2	149.2	149.3	149.4	149.5	149.7
110°	168.9	169.1	169.3	169.5	169.8	169.8	169.7	169.6	169.5	169.3	169.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.0	190.0	190.1	190.1	190.2	190.1	189.9	189.7	189.5	189.3	189.2
115°	221.8	221.8	221.8	221.8	221.8	221.6	221.4	221.1	221.0	220.7	220.6
117.5°	251.6	251.7	251.8	251.9	252.0	252.0	251.8	251.6	251.5	251.4	250.9
120°	271.6	272.1	272.5	273.0	273.4	273.5	273.1	272.8	272.4	272.1	271.5
122.5°	292.3	292.5	292.7	292.8	293.0	293.1	292.9	292.7	292.6	292.5	292.0
125°	323.0	323.0	323.0	323.0	323.0	322.9	322.8	322.7	322.5	322.4	322.2
127.5°	350.7	351.1	351.4	351.8	352.0	352.1	352.0	351.8	351.6	351.4	351.2
130°	370.2	370.6	371.0	371.3	371.6	371.8	371.8	371.8	371.8	371.8	371.6
132.5°	390.2	390.5	390.7	390.9	391.2	391.3	391.2	391.1	391.0	390.9	390.7
135°	416.5	417.2	417.9	418.6	419.3	419.5	419.5	419.5	419.5	419.5	419.4
137.5°	445.2	445.5	445.9	446.1	446.5	446.7	446.9	447.1	447.3	447.5	447.2
140°	464.3	464.6	464.8	465.0	465.2	465.4	465.4	465.4	465.4	465.4	465.2
142.5°	481.8	482.1	482.3	482.5	482.8	482.8	482.7	482.6	482.5	482.4	482.4
145°	506.0	506.5	506.9	507.4	507.8	508.1	508.3	508.4	508.5	508.5	508.5
147.5°	530.0	530.6	531.1	531.6	532.3	532.4	532.4	532.3	532.2	532.1	532.0
150°	544.7	545.2	545.6	546.1	546.5	546.7	546.7	546.7	546.7	546.7	546.7
152.5°	558.6	558.8	559.1	559.4	559.6	559.8	559.9	560.0	560.1	560.2	560.4
155°	579.8	579.8	579.8	579.8	579.8	579.7	579.6	579.5	579.4	579.3	579.7
157.5°	597.7	597.4	597.3	597.1	596.9	596.7	596.7	596.7	596.7	596.6	597.0
160°	608.2	608.1	608.1	608.0	607.8	607.7	607.6	607.5	607.3	607.3	607.6
162.5°	618.0	617.8	617.4	617.2	616.9	616.6	616.5	616.4	616.4	616.2	616.8
165°	631.2	630.8	630.4	630.2	629.8	629.5	629.3	629.1	628.8	628.7	629.3
167.5°	641.2	640.8	640.2	639.8	639.4	639.1	639.1	639.2	639.2	639.2	639.9
170°	646.9	646.4	645.8	645.2	644.6	644.4	644.5	644.6	644.8	644.9	645.6
172.5°	650.9	650.5	650.1	649.6	649.1	648.9	648.9	648.9	648.9	649.0	649.7
175°	656.6	656.0	655.5	654.9	654.3	654.0	653.9	653.8	653.6	653.5	654.3
177.5°	658.4	658.0	657.5	657.1	656.6	656.4	656.4	656.4	656.4	656.4	657.0
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	906.2	906.2	906.2	906.2	906.2	906.2	906.2	906.2
2.5°	902.9	904.2	905.5	906.2	906.1	905.9	905.8	905.7
5°	896.8	898.4	899.9	900.5	900.2	899.9	899.6	899.3
7.5°	884.8	885.8	886.9	887.1	886.6	886.1	885.6	885.1
10°	874.1	874.8	875.4	875.4	874.8	874.1	873.5	872.9
12.5°	860.9	861.2	861.7	861.4	860.5	859.7	858.8	857.9
15°	837.6	837.3	837.0	836.3	835.2	834.1	833.0	832.0
17.5°	809.6	808.7	807.8	806.6	804.9	803.3	801.6	800.0
20°	790.0	788.7	787.5	785.9	783.9	781.9	779.9	777.8
22.5°	768.2	766.3	764.5	762.8	761.1	759.5	757.9	756.2
25°	733.1	730.4	727.8	725.8	724.2	722.6	721.1	719.5
27.5°	697.2	694.0	690.8	688.0	685.8	683.6	681.4	679.2
30°	671.6	667.7	663.9	660.8	658.3	655.8	653.4	650.9
32.5°	645.4	641.0	636.4	633.0	630.7	628.4	626.0	623.7
35°	606.4	601.1	595.9	591.9	589.2	586.3	583.5	580.8
37.5°	564.5	558.7	552.8	548.5	545.6	542.9	540.1	537.3
40°	536.6	530.1	523.6	519.1	516.2	513.4	510.7	507.9
42.5°	509.2	502.6	496.0	491.2	488.3	485.4	482.5	479.7
45°	467.2	459.6	452.0	446.8	444.1	441.3	438.5	435.8
47.5°	424.8	417.0	409.1	403.7	400.6	397.6	394.6	391.5
50°	396.7	389.1	381.3	376.0	373.1	370.1	367.2	364.3
52.5°	368.7	360.9	353.1	347.7	344.6	341.5	338.5	335.5
55°	327.4	319.4	311.4	305.9	303.0	300.1	297.1	294.2
57.5°	287.0	278.9	270.8	265.6	263.4	261.2	259.0	256.7
60°	260.1	252.1	244.1	238.9	236.4	233.9	231.5	229.0
62.5°	233.6	226.2	218.8	214.1	212.1	210.2	208.2	206.3
65°	195.6	189.0	182.4	178.1	176.3	174.4	172.5	170.7
67.5°	160.7	155.0	149.3	145.4	143.4	141.3	139.3	137.2
70°	137.0	131.9	126.7	123.4	121.9	120.4	118.8	117.3
72.5°	115.7	111.3	106.9	104.1	102.6	101.2	99.8	98.4
75°	85.2	81.7	78.1	75.9	74.9	74.0	73.1	72.1
77.5°	60.3	58.2	56.1	54.9	54.7	54.4	54.1	53.9
80°	46.3	45.8	45.3	45.0	44.9	44.7	44.6	44.4
82.5°	35.9	35.6	35.3	35.0	34.9	34.7	34.6	34.4
85°	20.9	20.6	20.2	20.2	20.2	20.2	20.2	20.2
87.5°	10.1	10.1	10.1	10.2	10.3	10.5	10.6	10.8
90°	12.6	13.2	13.9	14.4	14.6	14.8	15.1	15.2
92.5°	21.0	21.4	21.8	22.0	22.2	22.3	22.5	22.6
95°	39.3	39.7	40.0	40.2	40.2	40.2	40.2	40.2
97.5°	62.0	62.3	62.8	63.0	63.0	63.0	63.0	63.0
100°	78.3	78.5	78.7	78.8	78.8	78.8	78.8	78.8
102.5°	95.5	95.9	96.1	96.4	96.5	96.6	96.7	96.8
105°	121.7	122.1	122.4	122.7	123.1	123.4	123.8	124.1
107.5°	150.1	150.3	150.7	150.9	150.8	150.8	150.8	150.8
110°	168.9	168.7	168.4	168.5	168.9	169.2	169.5	169.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	189.2	189.1	189.1	189.1	189.2	189.2	189.3	189.4
115°	220.5	220.4	220.3	220.2	220.1	219.9	219.8	219.7
117.5°	250.6	250.2	249.8	249.5	249.2	249.1	248.8	248.6
120°	271.0	270.4	269.8	269.7	269.9	270.1	270.4	270.5
122.5°	291.7	291.3	290.9	290.5	290.1	289.7	289.3	288.9
125°	322.0	321.7	321.6	321.3	321.1	320.8	320.7	320.4
127.5°	351.0	350.8	350.5	350.4	350.2	350.0	349.8	349.6
130°	371.3	371.1	370.9	370.5	370.1	369.6	369.2	368.7
132.5°	390.5	390.2	390.0	389.8	389.6	389.4	389.2	389.1
135°	419.1	418.9	418.7	418.4	418.0	417.7	417.4	417.1
137.5°	446.8	446.6	446.3	446.1	446.2	446.3	446.4	446.5
140°	465.1	465.0	464.9	464.8	464.7	464.6	464.5	464.3
142.5°	482.4	482.4	482.3	482.3	482.3	482.3	482.2	482.2
145°	508.4	508.3	508.1	507.9	507.6	507.2	506.8	506.6
147.5°	531.9	531.8	531.7	531.6	531.5	531.4	531.3	531.2
150°	546.7	546.7	546.7	546.7	546.5	546.4	546.4	546.3
152.5°	560.7	561.0	561.2	561.2	561.0	560.6	560.4	560.1
155°	580.1	580.6	581.1	581.1	580.6	580.1	579.7	579.3
157.5°	597.4	597.7	598.1	598.0	597.6	597.3	596.8	596.5
160°	608.0	608.2	608.6	608.5	608.0	607.3	606.8	606.3
162.5°	617.4	618.0	618.7	618.7	618.1	617.5	617.0	616.4
165°	630.0	630.6	631.3	631.4	631.0	630.5	630.1	629.6
167.5°	640.5	641.2	641.9	641.9	641.2	640.5	639.8	639.1
170°	646.2	646.9	647.6	647.6	646.8	646.0	645.2	644.4
172.5°	650.5	651.3	652.0	652.0	651.2	650.4	649.6	648.9
175°	655.1	655.9	656.7	656.7	655.9	655.1	654.3	653.5
177.5°	657.6	658.3	658.9	658.9	658.2	657.5	656.7	655.9
180°	657.6	657.6	657.6	657.6	657.6	657.6	657.6	657.6

(END OF REPORT)