

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: P332417-840

Luminaire Tested: **S123RDIW-S560D755U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332417-840
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: S123RDIW-S560D755U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 755 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4801.3 lumens
Efficiency: N/A
Efficacy: 127.7 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

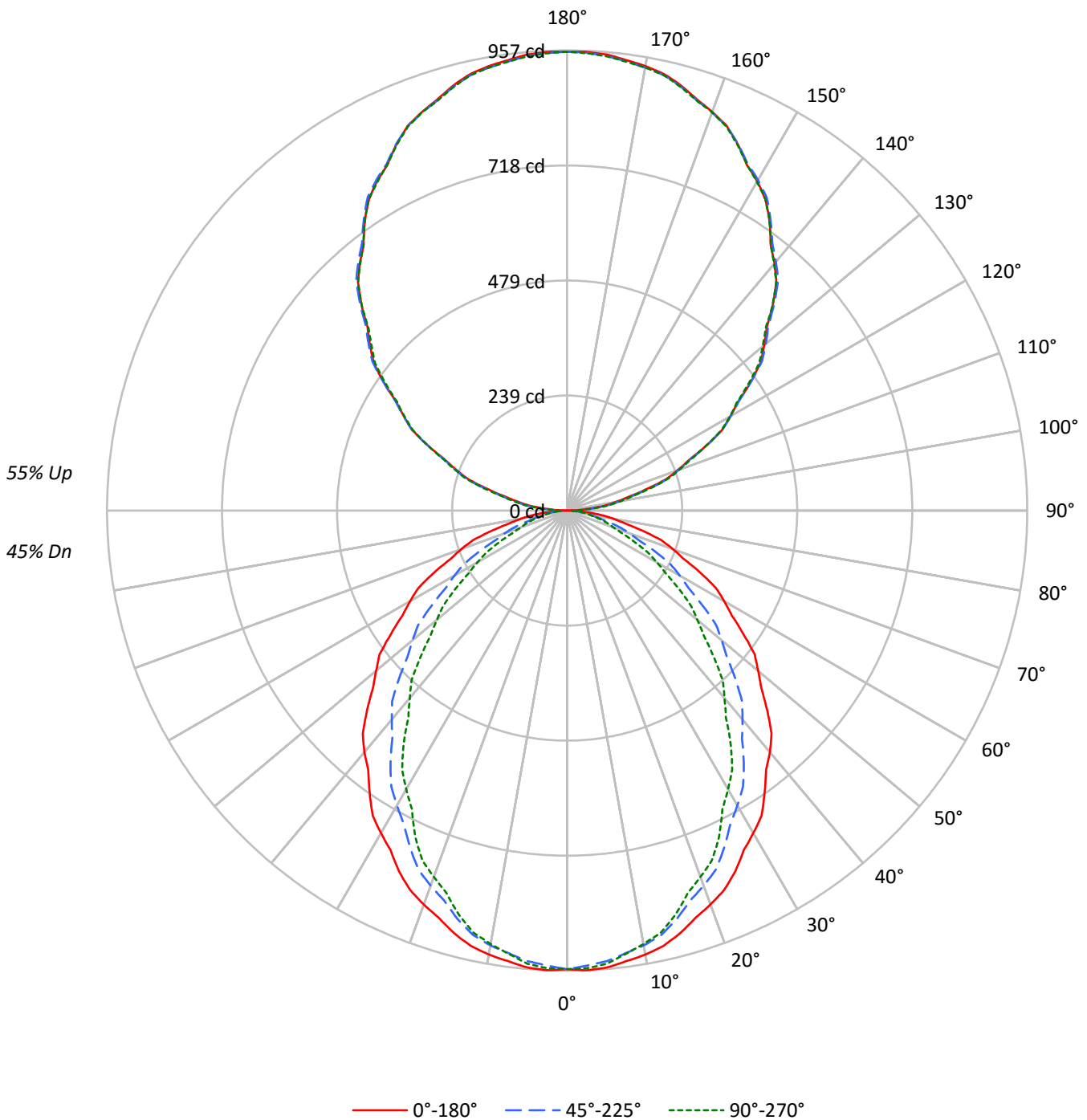
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	81	81	81	65	65	65	51	51	51	45				
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38				
2	88	81	75	70	81	75	70	65	63	59	56	51	49	46	41	39	37	33				
3	81	72	65	59	74	66	60	55	55	51	47	46	42	40	36	34	32	28				
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	33	30	28	24				
5	68	57	49	43	62	52	45	40	44	39	35	37	33	30	30	27	25	21				
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19				
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	19	17				
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	17	15				
9	50	38	31	26	46	36	29	24	30	25	22	26	22	19	21	18	16	14				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10267	10267	10267
5°	10306	10164	10222
10°	10248	10037	10002
15°	10137	9802	9698
20°	9986	9507	9286
25°	9830	9178	8884
30°	9625	8797	8316
35°	9412	8418	7796
40°	9218	7967	7152
45°	8961	7524	6570
50°	8679	7021	5921
55°	8392	6446	5315
60°	8127	5828	4646
65°	7784	5163	3978
70°	7352	4334	3213
75°	6725	3410	3023
80°	5994	3025	2777
85°	5064	2668	2482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.6	1.9
10°-20°	249.2	5.2
20°-30°	358.8	7.5
30°-40°	404.2	8.4
40°-50°	386.7	8.1
50°-60°	316.7	6.6
60°-70°	213.7	4.4
70°-80°	107.5	2.2
80°-90°	31.3	0.7
90°-100°	62.2	1.3
100°-110°	186.1	3.9
110°-120°	316.4	6.6
120°-130°	416.2	8.7
130°-140°	467.8	9.7
140°-150°	459.9	9.6
150°-160°	387.1	8.1
160°-170°	257.7	5.4
170°-180°	90.2	1.9
0°-30°	697.6	14.5
0°-40°	1101.8	22.9
0°-60°	1805.2	37.6
0°-90°	2157.6	44.9
90°-120°	564.7	11.8
90°-150°	1908.6	39.8
90°-180°	2644.0	55.1
0°-180°	4801.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	954	954	954	954	954	
5°	954	950	941	947	946	90
15°	910	900	880	876	870	256
25°	828	808	773	757	748	381
35°	716	687	641	608	593	448
45°	589	552	494	452	432	454
55°	447	408	344	300	283	401
65°	306	262	203	166	156	302
75°	162	124	82	75	73	172
85°	41	25	22	20	20	46
90°	1	8	18	21	22	5
95°	44	50	55	58	58	50
105°	169	170	177	177	178	181
115°	319	321	319	320	319	315
125°	466	468	467	464	461	416
135°	605	609	609	606	604	466
145°	734	735	738	737	734	458
155°	840	840	841	844	839	387
165°	915	913	913	917	912	258
175°	952	949	949	953	948	90
180°	954	954	954	954	954	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	956.9	956.3	955.8	955.2	954.7	953.6	952.0	950.3	948.7	947.1	948.6
5°	953.8	953.0	952.1	951.3	950.4	949.0	946.8	944.8	942.7	940.7	942.2
7.5°	945.0	944.1	943.1	942.2	941.3	939.5	936.9	934.1	931.4	928.8	929.6
10°	937.6	936.3	935.1	933.9	932.8	930.6	927.6	924.4	921.3	918.3	918.4
12.5°	927.1	925.7	924.3	923.0	921.7	919.2	915.3	911.6	907.8	904.0	903.9
15°	909.7	907.9	905.9	904.0	902.2	898.8	894.0	889.2	884.3	879.6	878.7
17.5°	887.9	885.8	883.5	881.3	879.1	874.9	868.8	862.7	856.6	850.5	848.7
20°	871.8	869.1	866.4	863.5	860.8	856.2	849.6	843.1	836.6	830.0	827.8
22.5°	853.8	850.7	847.6	844.3	841.2	836.2	829.2	822.2	815.4	808.4	805.6
25°	827.7	823.4	819.1	814.9	810.5	804.5	796.5	788.6	780.7	772.8	769.2
27.5°	796.0	791.2	786.5	781.7	777.0	770.2	761.4	752.7	743.9	735.1	730.0
30°	774.4	769.2	764.1	758.9	753.8	746.3	736.7	727.1	717.4	707.8	702.0
32.5°	752.7	746.9	741.0	735.2	729.3	721.3	711.1	700.9	690.7	680.5	674.2
35°	716.3	710.1	704.0	697.8	691.6	683.2	672.5	661.9	651.2	640.6	633.1
37.5°	679.5	672.7	665.8	658.8	652.0	642.9	631.5	620.2	608.7	597.3	589.0
40°	656.0	648.4	640.9	633.3	625.7	615.8	603.7	591.5	579.3	567.0	558.1
42.5°	629.3	621.8	614.3	606.7	599.2	589.1	576.4	563.8	551.2	538.6	528.8
45°	588.7	581.0	573.2	565.5	557.7	547.2	534.0	520.8	507.6	494.3	484.5
47.5°	548.0	539.5	531.0	522.5	514.0	503.2	489.9	476.7	463.4	450.2	439.6
50°	518.3	510.2	502.1	494.0	485.9	474.9	461.0	447.2	433.2	419.3	408.6
52.5°	491.7	482.9	474.1	465.3	456.7	445.4	431.5	417.8	403.9	390.2	379.1
55°	447.2	438.7	430.3	421.8	413.4	401.9	387.3	372.7	358.1	343.5	333.5
57.5°	406.0	396.8	387.6	378.4	369.2	357.3	342.6	328.0	313.3	298.6	289.2
60°	377.5	368.1	358.6	349.1	339.7	327.8	313.6	299.3	285.0	270.7	261.5
62.5°	349.0	339.6	330.1	320.6	311.2	299.3	285.1	270.8	256.5	242.3	233.6
65°	305.6	296.1	286.7	277.2	267.7	256.3	242.9	229.5	216.1	202.7	194.3
67.5°	262.1	252.6	243.0	233.4	223.9	212.7	199.8	186.9	174.1	161.2	154.9
70°	233.6	224.3	215.1	205.8	196.5	185.8	173.8	161.8	149.8	137.7	131.7
72.5°	205.1	196.0	186.8	177.7	168.5	158.5	147.6	136.6	125.7	114.8	109.9
75°	161.7	153.4	145.2	136.9	128.7	119.8	110.4	100.9	91.5	82.0	80.3
77.5°	122.1	114.6	107.1	99.7	92.2	85.4	79.4	73.3	67.2	61.1	60.2
80°	96.7	89.7	82.6	75.5	68.5	63.2	59.6	55.9	52.3	48.8	48.2
82.5°	72.6	66.4	60.4	54.3	48.2	44.3	42.6	41.0	39.3	37.6	37.1
85°	41.0	37.3	33.4	29.7	25.9	23.7	23.2	22.7	22.2	21.6	21.3
87.5°	15.0	13.8	12.6	11.5	10.3	9.9	10.3	10.8	11.2	11.6	11.6
90°	0.7	2.4	4.0	5.8	7.4	9.3	11.5	13.6	15.9	18.0	18.7
92.5°	18.2	19.3	20.4	21.5	22.6	23.8	25.0	26.4	27.6	28.8	29.3
95°	44.2	45.3	46.6	47.8	48.9	50.1	51.5	52.8	54.1	55.4	56.1
97.5°	78.6	79.4	80.3	81.2	82.0	82.9	83.9	84.8	85.8	86.8	87.6
100°	101.9	102.9	103.9	104.9	105.9	106.8	107.7	108.6	109.4	110.2	110.7
102.5°	129.0	129.6	130.2	130.7	131.3	132.2	133.3	134.4	135.4	136.5	137.0
105°	168.6	169.0	169.4	169.7	170.0	170.9	172.4	173.9	175.4	176.9	176.9
107.5°	214.8	215.0	215.2	215.4	215.6	216.0	216.6	217.2	217.8	218.4	218.9
110°	243.6	244.0	244.3	244.6	244.9	245.3	245.6	245.9	246.3	246.6	247.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	273.6	273.8	274.0	274.2	274.4	274.5	274.6	274.7	274.7	274.8	275.6
115°	318.6	319.0	319.5	320.0	320.5	320.6	320.3	320.0	319.6	319.3	319.5
117.5°	363.9	364.2	364.5	364.9	365.2	365.2	364.7	364.3	363.9	363.3	363.3
120°	392.0	393.0	394.0	395.1	396.1	396.1	395.3	394.5	393.6	392.7	392.6
122.5°	421.4	422.1	422.8	423.6	424.3	424.4	424.0	423.6	423.2	422.7	422.3
125°	466.3	466.8	467.3	467.8	468.3	468.3	468.0	467.7	467.3	467.0	466.4
127.5°	507.6	508.7	509.8	510.8	511.9	512.2	511.9	511.5	511.1	510.8	509.8
130°	535.2	536.5	537.9	539.2	540.5	541.0	540.5	540.0	539.5	539.0	538.3
132.5°	562.8	564.1	565.4	566.7	568.2	568.6	568.3	567.8	567.4	567.1	566.3
135°	604.9	605.9	606.9	607.9	608.8	609.4	609.2	608.9	608.8	608.6	607.9
137.5°	643.9	644.7	645.5	646.4	647.2	647.8	648.2	648.7	649.1	649.5	648.8
140°	670.9	671.7	672.6	673.4	674.2	674.7	674.9	675.0	675.2	675.4	675.2
142.5°	695.5	696.3	697.1	697.9	698.7	699.3	699.6	699.9	700.2	700.5	700.3
145°	733.9	734.2	734.5	734.8	735.2	735.6	736.1	736.6	737.1	737.6	737.4
147.5°	767.4	768.0	768.6	769.2	769.8	770.3	770.8	771.2	771.7	772.2	772.2
150°	790.8	791.1	791.4	791.8	792.1	792.4	792.7	793.1	793.5	793.8	793.8
152.5°	810.0	810.4	810.9	811.4	811.8	812.1	812.3	812.5	812.7	812.9	813.2
155°	840.3	840.3	840.3	840.3	840.3	840.3	840.5	840.7	840.8	841.0	841.7
157.5°	866.1	865.9	865.7	865.5	865.3	865.3	865.4	865.5	865.7	865.8	866.5
160°	882.2	881.9	881.6	881.2	880.9	880.7	880.7	880.7	880.7	880.7	881.6
162.5°	896.7	896.2	895.6	895.2	894.7	894.6	894.7	894.8	895.0	895.1	896.0
165°	915.2	914.7	914.2	913.7	913.2	912.9	912.9	912.9	912.9	912.9	913.9
167.5°	930.1	929.4	928.8	928.1	927.4	927.2	927.3	927.4	927.6	927.7	928.7
170°	938.5	937.8	937.2	936.4	935.7	935.4	935.4	935.4	935.4	935.4	936.6
172.5°	945.0	944.4	943.7	943.0	942.4	942.0	942.0	942.0	942.0	942.0	943.1
175°	951.9	951.3	950.6	950.0	949.3	949.0	949.0	949.0	949.0	949.0	950.0
177.5°	954.8	954.2	953.7	953.2	952.7	952.4	952.4	952.4	952.4	952.4	953.2
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	950.1	951.6	953.1	953.7	953.4	953.1	952.9	952.6
5°	943.7	945.3	946.8	947.5	947.2	946.7	946.4	946.0
7.5°	930.5	931.3	932.2	932.3	931.7	931.2	930.6	930.0
10°	918.6	918.8	918.9	918.6	917.8	916.9	916.0	915.1
12.5°	903.8	903.7	903.6	903.0	902.0	901.0	900.1	899.1
15°	877.9	877.0	876.2	875.0	873.8	872.7	871.5	870.3
17.5°	846.9	845.1	843.1	841.4	839.6	837.8	836.0	834.2
20°	825.6	823.3	821.1	819.0	816.9	814.9	812.7	810.7
22.5°	802.8	800.0	797.3	794.9	792.9	791.0	789.1	787.2
25°	765.6	761.9	758.4	755.6	753.8	751.8	749.9	748.0
27.5°	725.0	720.0	715.0	711.0	708.1	705.3	702.4	699.4
30°	696.1	690.2	684.5	680.1	677.4	674.7	671.9	669.1
32.5°	667.8	661.4	655.0	650.4	647.5	644.6	641.7	638.8
35°	625.7	618.3	611.0	605.7	602.6	599.6	596.4	593.3
37.5°	580.6	572.2	563.8	557.7	553.9	550.1	546.2	542.4
40°	549.2	540.2	531.3	524.8	520.9	516.9	513.0	509.0
42.5°	519.1	509.3	499.5	492.8	489.3	485.7	482.2	478.7
45°	474.7	464.9	455.1	448.2	444.0	439.9	435.8	431.6
47.5°	428.9	418.3	407.6	400.4	396.8	393.0	389.4	385.7
50°	398.0	387.3	376.7	369.3	365.4	361.4	357.5	353.6
52.5°	368.1	357.0	345.9	338.6	335.1	331.5	328.0	324.5
55°	323.6	313.6	303.6	296.9	293.5	290.0	286.6	283.2
57.5°	279.7	270.3	260.9	254.8	251.9	248.9	246.0	243.1
60°	252.2	242.9	233.6	227.5	224.6	221.7	218.7	215.8
62.5°	224.8	216.1	207.3	201.5	198.4	195.3	192.3	189.2
65°	185.8	177.4	169.0	163.8	162.0	160.1	158.1	156.2
67.5°	148.7	142.3	136.0	131.9	129.9	127.8	125.8	123.8
70°	125.6	119.7	113.6	109.7	107.8	105.9	104.0	102.1
72.5°	104.9	100.1	95.1	92.3	91.5	90.7	89.9	89.1
75°	78.6	76.9	75.1	74.1	73.7	73.4	73.0	72.7
77.5°	59.3	58.4	57.4	56.8	56.5	56.0	55.7	55.3
80°	47.7	47.2	46.7	46.3	45.9	45.5	45.2	44.8
82.5°	36.6	36.1	35.5	35.2	35.1	35.1	35.0	34.9
85°	21.0	20.6	20.3	20.1	20.1	20.1	20.1	20.1
87.5°	11.6	11.6	11.6	11.6	11.5	11.4	11.4	11.3
90°	19.3	20.0	20.7	21.1	21.5	21.8	22.1	22.5
92.5°	29.9	30.4	30.9	31.1	30.9	30.7	30.5	30.3
95°	56.8	57.5	58.2	58.5	58.5	58.5	58.5	58.5
97.5°	88.4	89.1	89.9	90.2	90.2	90.1	90.0	90.0
100°	111.2	111.7	112.2	112.6	112.9	113.3	113.6	113.9
102.5°	137.5	138.0	138.6	138.8	138.8	138.7	138.6	138.6
105°	176.9	176.9	176.9	177.0	177.4	177.7	178.0	178.4
107.5°	219.4	220.0	220.6	220.8	220.6	220.4	220.2	219.9
110°	247.9	248.6	249.2	249.4	249.1	248.7	248.4	248.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	276.4	277.2	278.0	278.3	278.3	278.2	278.1	278.1
115°	319.6	319.8	320.0	320.0	319.8	319.6	319.5	319.3
117.5°	363.3	363.2	363.2	363.0	362.5	362.0	361.6	361.1
120°	392.4	392.2	392.1	391.8	391.5	391.2	390.8	390.5
122.5°	421.9	421.4	421.0	420.6	420.1	419.6	419.2	418.7
125°	465.6	464.9	464.3	463.6	463.0	462.3	461.6	461.0
127.5°	508.9	508.0	507.1	506.1	505.4	504.6	503.9	503.1
130°	537.7	536.9	536.2	535.3	534.2	533.0	531.9	530.7
132.5°	565.5	564.7	563.9	563.1	562.2	561.3	560.4	559.5
135°	607.3	606.6	606.0	605.5	605.1	604.8	604.5	604.1
137.5°	648.1	647.4	646.8	646.1	645.5	644.8	644.2	643.6
140°	675.0	674.9	674.7	674.0	672.9	671.7	670.6	669.3
142.5°	700.2	700.0	699.8	699.3	698.4	697.5	696.6	695.7
145°	737.2	737.1	736.9	736.5	735.8	735.2	734.5	733.9
147.5°	772.2	772.2	772.2	771.7	770.7	769.7	768.7	767.7
150°	793.8	793.8	793.8	793.2	792.2	791.3	790.3	789.3
152.5°	813.5	813.7	814.1	813.7	812.8	812.0	811.1	810.3
155°	842.3	843.0	843.6	843.4	842.2	841.1	839.9	838.8
157.5°	867.2	867.9	868.6	868.4	867.5	866.6	865.7	864.6
160°	882.4	883.2	884.0	884.1	883.5	882.8	882.1	881.5
162.5°	896.8	897.7	898.5	898.4	897.3	896.3	895.1	894.0
165°	914.9	915.9	917.0	916.9	915.7	914.5	913.4	912.2
167.5°	929.7	930.8	931.8	931.8	930.8	929.7	928.7	927.7
170°	937.8	939.0	940.1	940.1	939.0	937.8	936.6	935.4
172.5°	944.1	945.1	946.1	946.1	944.9	943.8	942.6	941.5
175°	951.0	951.9	952.9	952.9	951.7	950.5	949.4	948.2
177.5°	954.0	954.8	955.6	955.5	954.6	953.6	952.7	951.8
180°	954.2	954.2	954.2	954.2	954.2	954.2	954.2	954.2

(END OF REPORT)