

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

Luminaire Tested: **S123RDIW-S560D755U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332417
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-S560D755U835-4F0-1E-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: 4754.4 lumens
Efficiency: N/A
Efficacy: 126.4 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

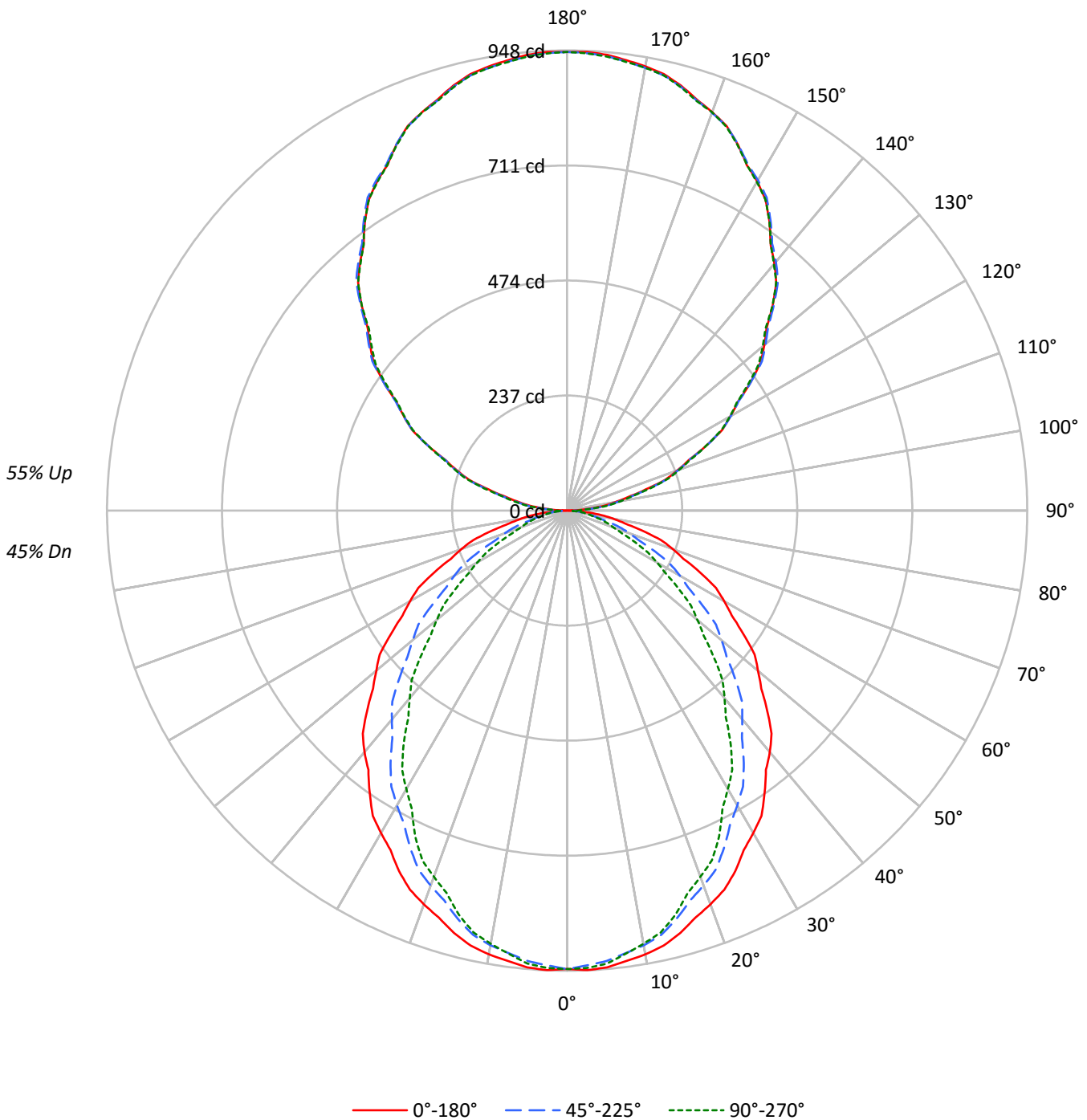
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	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	1.9
10°-20°	246.8	5.2
20°-30°	355.3	7.5
30°-40°	400.3	8.4
40°-50°	382.9	8.1
50°-60°	313.6	6.6
60°-70°	211.6	4.4
70°-80°	106.4	2.2
80°-90°	31.0	0.7
90°-100°	61.6	1.3
100°-110°	184.2	3.9
110°-120°	313.4	6.6
120°-130°	412.2	8.7
130°-140°	463.3	9.7
140°-150°	455.4	9.6
150°-160°	383.4	8.1
160°-170°	255.2	5.4
170°-180°	89.4	1.9
0°-30°	690.8	14.5
0°-40°	1091.1	22.9
0°-60°	1787.6	37.6
0°-90°	2136.5	44.9
90°-120°	559.2	11.8
90°-150°	1890.0	39.8
90°-180°	2618.0	55.1
0°-180°	4754.4	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	8	18	21	22	5
95°	44	49	55	58	58	49
105°	167	169	175	175	177	179
115°	316	317	316	317	316	312
125°	462	464	462	459	456	412
135°	599	603	603	600	598	461
145°	727	728	730	730	727	454
155°	832	832	833	835	831	383
165°	906	904	904	908	903	255
175°	943	940	940	944	939	89
180°	945	945	945	945	945	



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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°	14.9	13.7	12.5	11.4	10.2	9.8	10.2	10.7	11.1	11.5	11.5
90°	0.7	2.4	4.0	5.7	7.3	9.2	11.4	13.5	15.7	17.8	18.5
92.5°	18.0	19.1	20.2	21.3	22.4	23.6	24.8	26.1	27.3	28.5	29.0
95°	43.8	44.9	46.1	47.3	48.4	49.6	51.0	52.3	53.6	54.9	55.6
97.5°	77.8	78.6	79.5	80.4	81.2	82.1	83.1	84.0	85.0	86.0	86.7
100°	100.9	101.9	102.9	103.9	104.9	105.8	106.6	107.5	108.3	109.1	109.6
102.5°	127.7	128.3	128.9	129.4	130.0	130.9	132.0	133.1	134.1	135.2	135.7
105°	167.0	167.3	167.7	168.0	168.3	169.2	170.7	172.2	173.7	175.2	175.2
107.5°	212.7	212.9	213.1	213.3	213.5	213.9	214.5	215.1	215.7	216.3	216.8
110°	241.2	241.6	241.9	242.2	242.5	242.9	243.2	243.5	243.9	244.2	244.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	270.9	271.1	271.3	271.5	271.7	271.8	271.9	272.0	272.0	272.1	272.9
115°	315.5	315.9	316.4	316.9	317.4	317.5	317.2	316.9	316.5	316.2	316.4
117.5°	360.3	360.6	360.9	361.3	361.6	361.6	361.1	360.7	360.3	359.8	359.8
120°	388.2	389.2	390.2	391.2	392.2	392.2	391.4	390.6	389.8	388.9	388.8
122.5°	417.3	418.0	418.7	419.5	420.2	420.3	419.9	419.5	419.1	418.6	418.2
125°	461.7	462.2	462.7	463.2	463.7	463.7	463.4	463.1	462.7	462.4	461.8
127.5°	502.6	503.7	504.8	505.8	506.9	507.2	506.9	506.5	506.1	505.8	504.8
130°	530.0	531.3	532.6	533.9	535.2	535.7	535.2	534.7	534.2	533.7	533.0
132.5°	557.3	558.6	559.9	561.2	562.6	563.0	562.7	562.3	561.9	561.6	560.8
135°	599.0	600.0	601.0	602.0	602.9	603.4	603.2	603.0	602.9	602.7	602.0
137.5°	637.6	638.4	639.2	640.1	640.9	641.5	641.9	642.4	642.8	643.2	642.5
140°	664.3	665.1	666.0	666.8	667.6	668.1	668.3	668.4	668.6	668.8	668.6
142.5°	688.7	689.5	690.3	691.1	691.9	692.5	692.8	693.1	693.4	693.7	693.5
145°	726.7	727.0	727.3	727.6	728.0	728.4	728.9	729.4	729.9	730.4	730.2
147.5°	759.9	760.5	761.1	761.7	762.3	762.8	763.3	763.7	764.2	764.7	764.7
150°	783.1	783.4	783.7	784.1	784.4	784.7	785.0	785.4	785.7	786.0	786.0
152.5°	802.1	802.5	803.0	803.5	803.9	804.2	804.4	804.6	804.8	805.0	805.3
155°	832.1	832.1	832.1	832.1	832.1	832.1	832.3	832.5	832.6	832.8	833.5
157.5°	857.6	857.4	857.2	857.0	856.8	856.8	856.9	857.0	857.2	857.3	858.0
160°	873.6	873.3	873.0	872.6	872.3	872.1	872.1	872.1	872.1	872.1	873.0
162.5°	887.9	887.4	886.9	886.5	886.0	885.9	886.0	886.1	886.3	886.4	887.2
165°	906.3	905.8	905.3	904.8	904.3	904.0	904.0	904.0	904.0	904.0	905.0
167.5°	921.0	920.3	919.7	919.0	918.3	918.1	918.2	918.3	918.5	918.6	919.6
170°	929.3	928.6	928.0	927.3	926.6	926.3	926.3	926.3	926.3	926.3	927.5
172.5°	935.8	935.2	934.5	933.8	933.2	932.8	932.8	932.8	932.8	932.8	933.9
175°	942.6	942.0	941.3	940.7	940.0	939.7	939.7	939.7	939.7	939.7	940.7
177.5°	945.5	944.9	944.4	943.9	943.4	943.1	943.1	943.1	943.1	943.1	943.9
180°	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9



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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°	11.5	11.5	11.5	11.5	11.4	11.3	11.3	11.2
90°	19.1	19.8	20.5	20.9	21.3	21.6	21.9	22.3
92.5°	29.6	30.1	30.6	30.8	30.6	30.4	30.2	30.0
95°	56.2	56.9	57.6	57.9	57.9	57.9	57.9	57.9
97.5°	87.5	88.2	89.0	89.3	89.3	89.2	89.1	89.1
100°	110.1	110.6	111.1	111.5	111.8	112.2	112.5	112.8
102.5°	136.2	136.7	137.2	137.4	137.4	137.3	137.2	137.2
105°	175.2	175.2	175.2	175.3	175.7	176.0	176.3	176.7
107.5°	217.3	217.9	218.4	218.6	218.4	218.2	218.0	217.8
110°	245.5	246.2	246.8	247.0	246.7	246.3	246.0	245.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	273.7	274.5	275.3	275.6	275.6	275.5	275.4	275.4
115°	316.5	316.7	316.9	316.9	316.7	316.5	316.4	316.2
117.5°	359.8	359.7	359.7	359.5	359.0	358.5	358.1	357.6
120°	388.6	388.4	388.3	388.0	387.7	387.4	387.0	386.7
122.5°	417.8	417.3	416.9	416.5	416.0	415.5	415.1	414.6
125°	461.1	460.4	459.8	459.1	458.5	457.8	457.1	456.5
127.5°	503.9	503.0	502.1	501.2	500.5	499.7	499.0	498.2
130°	532.4	531.7	531.0	530.1	529.0	527.8	526.7	525.5
132.5°	560.0	559.2	558.4	557.6	556.7	555.8	554.9	554.0
135°	601.4	600.7	600.1	599.6	599.2	598.9	598.6	598.2
137.5°	641.8	641.1	640.5	639.8	639.2	638.5	637.9	637.3
140°	668.4	668.3	668.1	667.4	666.3	665.1	664.0	662.8
142.5°	693.4	693.2	693.0	692.5	691.6	690.7	689.8	688.9
145°	730.0	729.9	729.7	729.3	728.6	728.0	727.3	726.7
147.5°	764.7	764.7	764.7	764.2	763.2	762.2	761.2	760.2
150°	786.0	786.0	786.0	785.5	784.5	783.6	782.6	781.6
152.5°	805.6	805.8	806.1	805.8	804.9	804.1	803.2	802.4
155°	834.1	834.8	835.4	835.2	834.0	832.9	831.7	830.6
157.5°	858.7	859.4	860.1	859.9	859.0	858.1	857.2	856.2
160°	873.8	874.6	875.4	875.5	874.9	874.2	873.5	872.9
162.5°	888.0	888.9	889.7	889.6	888.5	887.5	886.4	885.3
165°	906.0	907.0	908.0	907.9	906.8	905.6	904.5	903.3
167.5°	920.6	921.7	922.7	922.7	921.7	920.6	919.6	918.6
170°	928.6	929.8	930.9	930.9	929.8	928.6	927.5	926.3
172.5°	934.9	935.9	936.9	936.9	935.7	934.6	933.4	932.3
175°	941.7	942.6	943.6	943.6	942.4	941.2	940.1	938.9
177.5°	944.7	945.5	946.3	946.2	945.3	944.3	943.4	942.5
180°	944.9	944.9	944.9	944.9	944.9	944.9	944.9	944.9

(END OF REPORT)