

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: P332158-830

Luminaire Tested: **S123DIW-S775D755U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332158-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S775D755U830-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5894.0 lumens  
Efficiency: N/A  
Efficacy: 131.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

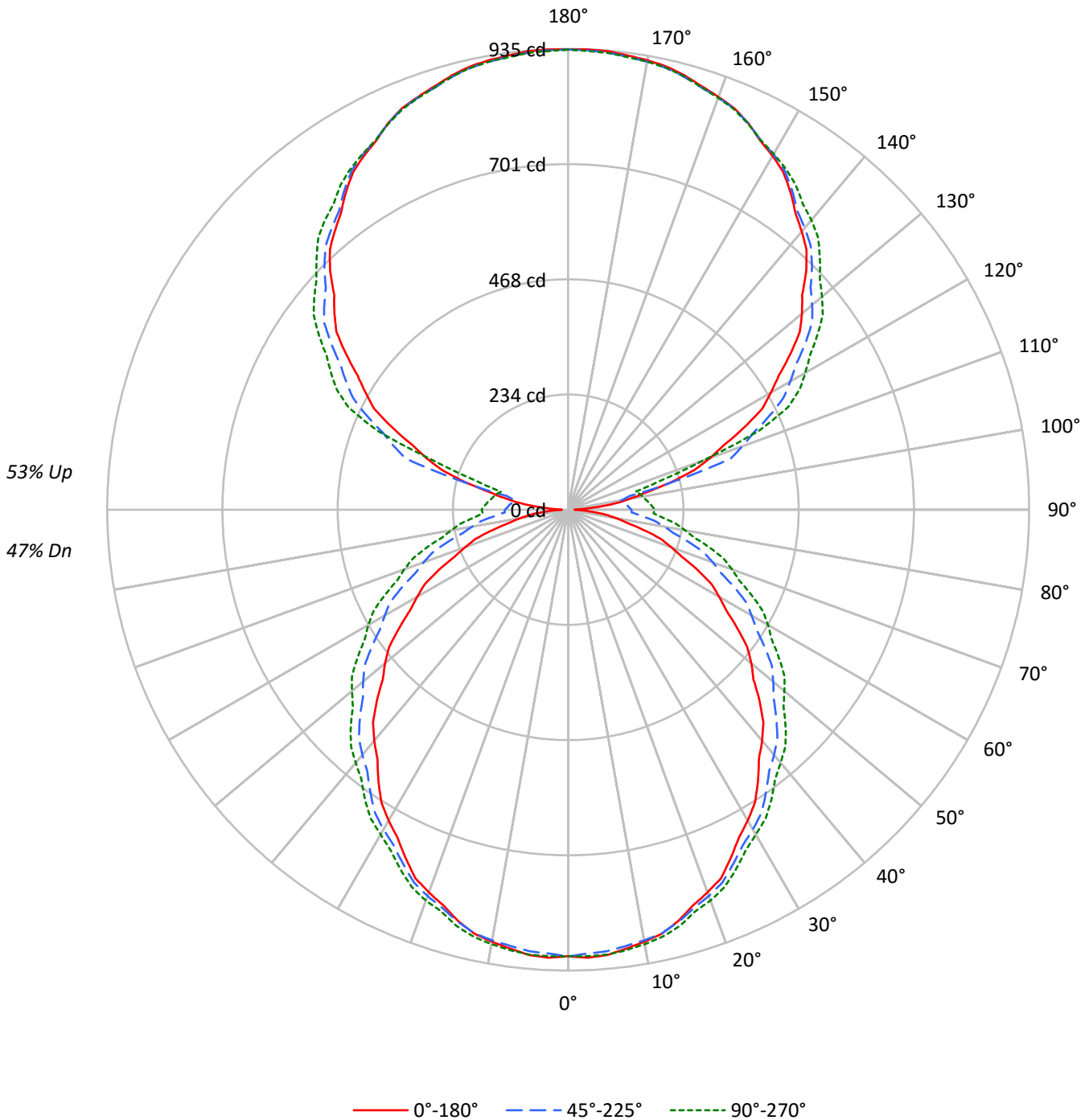
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	96	91	87	83	88	84	80	77	70	68	65	58	56	54	46	45	43	38
2	87	79	73	67	80	73	67	62	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	72	64	57	52	53	48	44	44	40	37	35	32	30	26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	31	31	28	26	22
5	66	54	46	40	61	50	43	37	42	36	32	35	30	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	31	27	24	25	22	19	16
7	56	44	36	30	52	41	33	28	34	29	24	28	24	21	23	20	17	14
8	52	40	32	26	48	37	30	25	31	26	22	26	22	18	21	18	15	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	16	19	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	12	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	9752	9752	9752
5°	9782	9507	9512
10°	9694	9287	9240
15°	9570	9038	8945
20°	9390	8755	8621
25°	9171	8428	8278
30°	8945	8133	7931
35°	8692	7823	7655
40°	8450	7540	7358
45°	8182	7269	7122
50°	7918	7000	6860
55°	7627	6725	6625
60°	7343	6446	6385
65°	7051	6149	6098
70°	6611	5815	5805
75°	6055	5432	5506
80°	5416	5056	5164
85°	4828	4799	4966



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.9	1.5
10°-20°	244.8	4.2
20°-30°	366.2	6.2
30°-40°	437.3	7.4
40°-50°	457.5	7.8
50°-60°	429.4	7.3
60°-70°	358.6	6.1
70°-80°	256.6	4.4
80°-90°	155.6	2.6
90°-100°	129.9	2.2
100°-110°	232.3	3.9
110°-120°	435.7	7.4
120°-130°	521.7	8.9
130°-140°	540.7	9.2
140°-150°	497.0	8.4
150°-160°	398.8	6.8
160°-170°	257.4	4.4
170°-180°	88.7	1.5
0°-30°	696.9	11.8
0°-40°	1134.2	19.2
0°-60°	2021.1	34.3
0°-90°	2791.9	47.4
90°-120°	797.9	13.5
90°-150°	2357.3	40.0
90°-180°	3102.0	52.6
0°-180°	5894.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	906	906	906	906	906	
5°	907	905	899	906	906	86
15°	864	866	866	875	874	243
25°	780	789	792	805	805	359
35°	671	687	700	714	718	420
45°	549	572	597	615	624	423
55°	418	451	486	512	521	375
65°	289	328	371	400	411	286
75°	157	203	253	284	297	168
85°	48	98	150	182	193	51
90°	14	69	128	163	176	11
95°	53	66	119	153	165	61
105°	215	243	226	137	141	227
115°	393	410	450	480	492	388
125°	550	556	586	608	617	491
135°	682	686	699	718	722	525
145°	786	790	791	800	805	492
155°	865	864	864	867	864	398
165°	912	910	909	914	910	258
175°	934	930	931	935	930	89
180°	934	934	934	934	934	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0
2.5°	909.9	909.4	908.9	908.3	907.9	906.8	905.5	904.1	902.7	901.3	902.7
5°	907.0	906.5	906.1	905.7	905.2	904.4	903.1	901.7	900.4	899.1	900.9
7.5°	898.1	898.1	898.2	898.3	898.4	897.9	896.5	895.3	894.0	892.8	894.9
10°	890.2	890.6	891.1	891.6	891.9	891.6	890.5	889.5	888.3	887.2	889.5
12.5°	880.7	881.4	881.9	882.6	883.2	883.2	882.4	881.7	880.9	880.1	882.1
15°	863.6	864.2	864.9	865.5	866.2	866.4	866.2	866.0	865.7	865.5	867.7
17.5°	841.9	843.2	844.5	845.7	847.1	847.7	847.6	847.5	847.4	847.3	849.3
20°	826.0	827.4	828.7	830.0	831.3	832.2	832.6	833.1	833.5	834.0	835.9
22.5°	809.5	810.8	812.1	813.4	814.7	815.7	816.3	816.9	817.6	818.1	820.7
25°	779.7	781.8	784.0	786.3	788.4	789.9	790.5	791.2	791.8	792.5	795.3
27.5°	749.7	752.1	754.7	757.1	759.7	761.6	763.0	764.4	765.8	767.2	769.7
30°	728.3	731.2	734.1	736.9	739.7	742.1	743.8	745.6	747.3	749.0	751.7
32.5°	704.6	707.8	711.1	714.3	717.5	720.2	722.5	724.8	727.1	729.3	732.2
35°	671.1	674.6	678.2	681.6	685.1	688.3	691.2	694.0	696.9	699.7	703.0
37.5°	635.6	639.5	643.5	647.4	651.4	655.1	658.6	662.1	665.6	669.1	672.9
40°	611.9	615.9	619.8	623.8	627.6	631.9	636.2	640.6	645.0	649.4	653.1
42.5°	585.8	590.7	595.5	600.3	605.1	609.8	614.3	619.0	623.5	628.1	632.2
45°	548.7	554.0	559.2	564.5	569.8	575.1	580.6	586.1	591.6	597.1	601.2
47.5°	509.8	515.9	521.8	527.7	533.7	539.8	546.1	552.3	558.6	564.9	569.6
50°	484.6	490.7	496.8	503.0	509.2	515.6	522.5	529.2	536.0	542.8	547.8
52.5°	457.7	464.2	470.7	477.2	483.7	490.7	498.2	505.7	513.2	520.7	525.9
55°	418.5	425.7	432.9	440.2	447.4	455.0	462.9	470.8	478.6	486.5	492.5
57.5°	380.1	387.7	395.2	402.7	410.4	418.4	427.1	435.7	444.3	453.0	458.9
60°	353.4	361.2	369.1	377.0	384.9	393.3	402.4	411.3	420.3	429.3	435.5
62.5°	328.0	336.1	344.2	352.2	360.3	369.1	378.6	388.1	397.7	407.2	413.3
65°	289.2	297.7	306.2	314.8	323.4	332.4	342.1	351.8	361.5	371.1	377.7
67.5°	249.7	258.7	267.9	276.9	286.0	295.5	305.3	315.1	324.9	334.8	342.0
70°	222.1	231.5	240.9	250.3	259.8	269.8	280.3	290.8	301.3	311.9	318.9
72.5°	196.8	206.2	215.7	225.1	234.5	244.7	255.5	266.5	277.3	288.1	295.4
75°	156.9	167.2	177.6	187.8	198.1	208.8	219.7	230.7	241.7	252.7	259.9
77.5°	122.2	132.6	143.0	153.4	163.7	174.5	185.6	196.6	207.6	218.7	226.3
80°	97.7	108.5	119.2	130.0	140.7	151.7	163.2	174.6	186.0	197.4	204.8
82.5°	76.3	87.3	98.2	109.1	120.1	131.3	142.9	154.5	166.1	177.7	185.1
85°	48.4	59.3	70.3	81.2	92.2	103.5	115.2	126.8	138.4	150.1	157.5
87.5°	26.4	37.6	48.8	60.0	71.4	82.8	94.3	105.8	117.4	129.0	136.7
90°	13.5	25.8	38.1	50.4	62.7	75.4	88.6	101.8	115.0	128.2	136.2
92.5°	25.0	34.2	43.5	52.7	62.0	72.9	85.4	97.9	110.5	123.0	131.2
95°	53.2	55.4	57.6	59.9	62.1	69.5	81.9	94.3	106.8	119.2	127.1
97.5°	94.7	99.6	104.4	109.3	114.2	116.3	115.5	114.6	113.8	112.9	120.7
100°	126.1	136.2	146.3	156.4	166.5	164.6	150.6	136.7	122.7	108.8	116.3
102.5°	161.9	170.5	179.0	187.6	196.0	192.2	175.8	159.5	143.1	126.8	129.1
105°	214.6	221.5	228.5	235.4	242.4	243.6	239.2	234.8	230.4	225.9	204.8
107.5°	269.2	275.0	280.8	286.6	292.5	301.0	312.1	323.2	334.4	345.5	331.4
110°	305.6	310.8	315.9	321.1	326.3	334.1	344.6	355.1	365.5	376.0	376.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	341.1	345.4	349.8	354.1	358.4	365.7	375.8	386.0	396.1	406.1	411.8
115°	392.7	396.2	399.7	403.3	406.9	413.3	422.5	431.9	441.1	450.4	457.2
117.5°	443.4	446.1	448.8	451.7	454.4	459.9	468.0	476.1	484.2	492.4	498.8
120°	474.2	476.6	479.2	481.6	484.1	489.2	496.9	504.6	512.4	520.0	526.3
122.5°	506.3	508.1	509.8	511.5	513.2	517.8	525.3	532.7	540.3	547.7	553.5
125°	549.5	550.7	552.0	553.2	554.4	558.6	565.5	572.5	579.5	586.4	591.4
127.5°	592.2	593.2	594.3	595.3	596.3	599.8	605.8	611.8	617.8	623.8	628.7
130°	618.9	619.9	620.9	621.9	622.9	625.9	630.9	635.9	640.9	645.9	650.7
132.5°	643.6	644.8	646.0	647.1	648.4	650.9	655.0	658.9	663.0	666.9	671.6
135°	682.4	683.1	683.8	684.5	685.2	687.0	690.1	693.1	696.2	699.2	703.6
137.5°	715.5	716.4	717.5	718.5	719.4	720.8	722.5	724.2	725.9	727.6	731.8
140°	736.9	737.8	738.8	739.6	740.6	741.6	742.7	743.9	745.0	746.1	750.0
142.5°	757.4	758.2	758.9	759.7	760.4	761.1	761.7	762.2	762.9	763.5	766.9
145°	786.1	787.0	787.9	788.7	789.6	790.1	790.4	790.8	791.1	791.4	793.4
147.5°	812.2	812.8	813.6	814.3	815.0	815.5	815.9	816.1	816.4	816.7	817.6
150°	828.9	829.2	829.7	830.2	830.7	831.0	831.4	831.7	832.0	832.3	832.6
152.5°	843.8	844.0	844.2	844.4	844.7	844.9	845.1	845.3	845.5	845.6	846.1
155°	864.9	864.6	864.3	863.9	863.7	863.6	863.7	863.9	864.0	864.2	865.0
157.5°	881.3	881.3	881.2	881.2	881.2	881.1	880.9	880.7	880.6	880.4	881.4
160°	891.3	891.1	891.0	890.8	890.6	890.5	890.3	890.1	890.0	889.9	890.8
162.5°	900.7	900.3	899.8	899.5	899.1	898.8	898.6	898.5	898.3	898.1	899.3
165°	912.1	911.6	911.2	910.7	910.2	909.9	909.7	909.6	909.5	909.3	910.5
167.5°	921.0	920.3	919.7	919.1	918.5	918.1	918.1	918.1	918.1	918.1	919.4
170°	926.0	925.3	924.7	924.1	923.5	923.1	923.1	923.1	923.1	923.1	924.4
172.5°	929.3	928.5	927.7	927.1	926.3	926.0	926.1	926.2	926.3	926.5	927.7
175°	933.6	932.7	932.0	931.2	930.5	930.2	930.3	930.5	930.7	930.8	931.9
177.5°	934.6	934.1	933.4	932.8	932.2	932.0	932.1	932.2	932.4	932.5	933.4
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	906.0	906.0	906.0	906.0	906.0	906.0	906.0	906.0
2.5°	904.1	905.5	906.8	907.5	907.3	907.1	906.9	906.8
5°	902.6	904.4	906.1	906.8	906.6	906.4	906.3	906.0
7.5°	897.1	899.4	901.5	902.5	902.2	902.0	901.7	901.4
10°	891.6	893.8	896.0	896.9	896.5	896.0	895.6	895.1
12.5°	884.2	886.2	888.2	889.0	888.5	888.2	887.7	887.2
15°	869.9	872.1	874.3	875.2	875.1	874.9	874.6	874.4
17.5°	851.3	853.3	855.3	856.1	855.8	855.5	855.2	854.9
20°	837.9	839.9	841.9	842.9	843.2	843.4	843.6	843.9
22.5°	823.1	825.7	828.1	829.3	829.2	829.1	829.0	828.8
25°	798.2	801.1	803.9	805.3	805.3	805.3	805.3	805.3
27.5°	772.1	774.6	777.0	778.4	778.5	778.7	778.9	779.1
30°	754.3	757.0	759.6	760.9	760.9	760.9	760.9	760.9
32.5°	734.9	737.7	740.6	742.3	742.7	743.3	743.8	744.3
35°	706.3	709.6	712.8	715.0	715.9	716.7	717.6	718.5
37.5°	676.6	680.3	684.0	686.3	686.9	687.7	688.3	689.1
40°	656.9	660.5	664.3	666.6	667.5	668.4	669.2	670.1
42.5°	636.2	640.3	644.4	647.1	648.3	649.5	650.7	652.0
45°	605.4	609.5	613.8	616.7	618.5	620.2	622.0	623.8
47.5°	574.3	579.0	583.7	586.7	588.1	589.5	590.8	592.1
50°	552.9	557.9	563.0	566.3	567.8	569.3	570.9	572.4
52.5°	531.1	536.4	541.6	545.2	547.1	548.9	550.8	552.7
55°	498.4	504.4	510.2	514.1	515.9	517.6	519.3	521.1
57.5°	465.0	470.9	476.8	480.9	483.0	485.0	487.0	489.1
60°	441.6	447.7	453.8	458.2	460.5	463.0	465.4	467.8
62.5°	419.5	425.7	431.8	435.9	438.2	440.5	442.7	444.9
65°	384.3	390.8	397.4	401.8	404.0	406.1	408.4	410.6
67.5°	349.1	356.4	363.5	368.1	369.9	371.7	373.6	375.4
70°	325.9	332.9	340.0	344.5	346.8	348.9	351.1	353.4
72.5°	302.6	309.7	317.0	321.7	323.9	326.0	328.2	330.5
75°	267.1	274.4	281.6	286.5	289.2	291.8	294.5	297.1
77.5°	233.9	241.6	249.2	254.0	256.1	258.1	260.1	262.1
80°	212.3	219.7	227.2	232.1	234.2	236.4	238.7	240.8
82.5°	192.6	200.0	207.5	212.3	214.5	216.7	218.9	221.0
85°	164.9	172.4	179.8	184.6	186.8	189.1	191.2	193.4
87.5°	144.2	151.8	159.4	164.3	166.5	168.8	171.1	173.3
90°	144.3	152.4	160.4	165.8	168.2	170.8	173.2	175.8
92.5°	139.5	147.8	156.0	161.3	163.4	165.7	167.9	170.0
95°	135.0	142.8	150.7	155.7	158.0	160.1	162.3	164.6
97.5°	128.5	136.2	144.0	149.1	151.4	153.7	156.1	158.4
100°	123.9	131.5	139.1	144.1	146.5	148.8	151.1	153.4
102.5°	131.5	133.8	136.2	138.6	141.1	143.5	146.0	148.5
105°	183.6	162.5	141.4	132.0	134.2	136.5	138.7	141.1
107.5°	317.3	303.1	289.0	272.6	254.0	235.4	216.7	198.1
110°	377.2	377.8	378.4	368.6	348.3	328.0	307.7	287.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	417.5	423.0	428.7	430.1	427.3	424.6	422.0	419.2
115°	464.0	470.8	477.7	482.2	484.6	487.0	489.4	491.7
117.5°	505.2	511.7	518.1	522.3	524.1	525.9	527.8	529.6
120°	532.5	538.9	545.2	549.0	550.5	552.1	553.6	555.2
122.5°	559.2	564.9	570.6	574.3	576.0	577.7	579.3	581.0
125°	596.3	601.2	606.1	609.4	611.3	613.1	615.0	616.9
127.5°	633.5	638.3	643.2	646.1	647.3	648.6	649.7	650.9
130°	655.5	660.3	665.1	668.0	669.0	670.0	671.0	672.0
132.5°	676.2	680.8	685.4	688.2	689.3	690.3	691.4	692.5
135°	708.0	712.4	716.8	719.3	720.0	720.6	721.2	721.9
137.5°	736.0	740.2	744.4	746.9	747.7	748.5	749.3	750.1
140°	753.8	757.8	761.7	764.0	764.9	765.6	766.4	767.2
142.5°	770.3	773.7	777.2	779.2	779.9	780.5	781.2	781.8
145°	795.5	797.6	799.7	801.1	802.0	802.9	803.7	804.6
147.5°	818.4	819.3	820.1	820.6	820.7	820.7	820.8	820.9
150°	832.9	833.2	833.5	833.7	833.7	833.6	833.6	833.6
152.5°	846.7	847.3	847.8	847.8	847.2	846.6	845.9	845.3
155°	865.7	866.5	867.3	867.2	866.3	865.3	864.4	863.5
157.5°	882.3	883.2	884.1	884.0	882.8	881.6	880.4	879.2
160°	891.7	892.7	893.5	893.5	892.4	891.4	890.2	889.2
162.5°	900.3	901.4	902.4	902.4	901.4	900.5	899.6	898.6
165°	911.7	912.9	914.2	914.3	913.2	912.1	911.1	909.9
167.5°	920.6	921.9	923.1	923.1	921.9	920.6	919.4	918.1
170°	925.6	926.9	928.1	928.1	926.9	925.6	924.4	923.1
172.5°	929.0	930.2	931.4	931.3	930.0	928.7	927.3	926.0
175°	932.9	934.1	935.1	935.0	933.8	932.6	931.3	930.1
177.5°	934.4	935.4	936.4	936.2	935.0	933.8	932.6	931.3
180°	933.6	933.6	933.6	933.6	933.6	933.6	933.6	933.6

(END OF REPORT)