

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: P332432-930

Luminaire Tested: **S123RDIW-S775D460U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332432-930  
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: S123RDIW-S775D460U930-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 460 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3882.8 lumens  
Efficiency: N/A  
Efficacy: 103.0 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: Semi-Direct

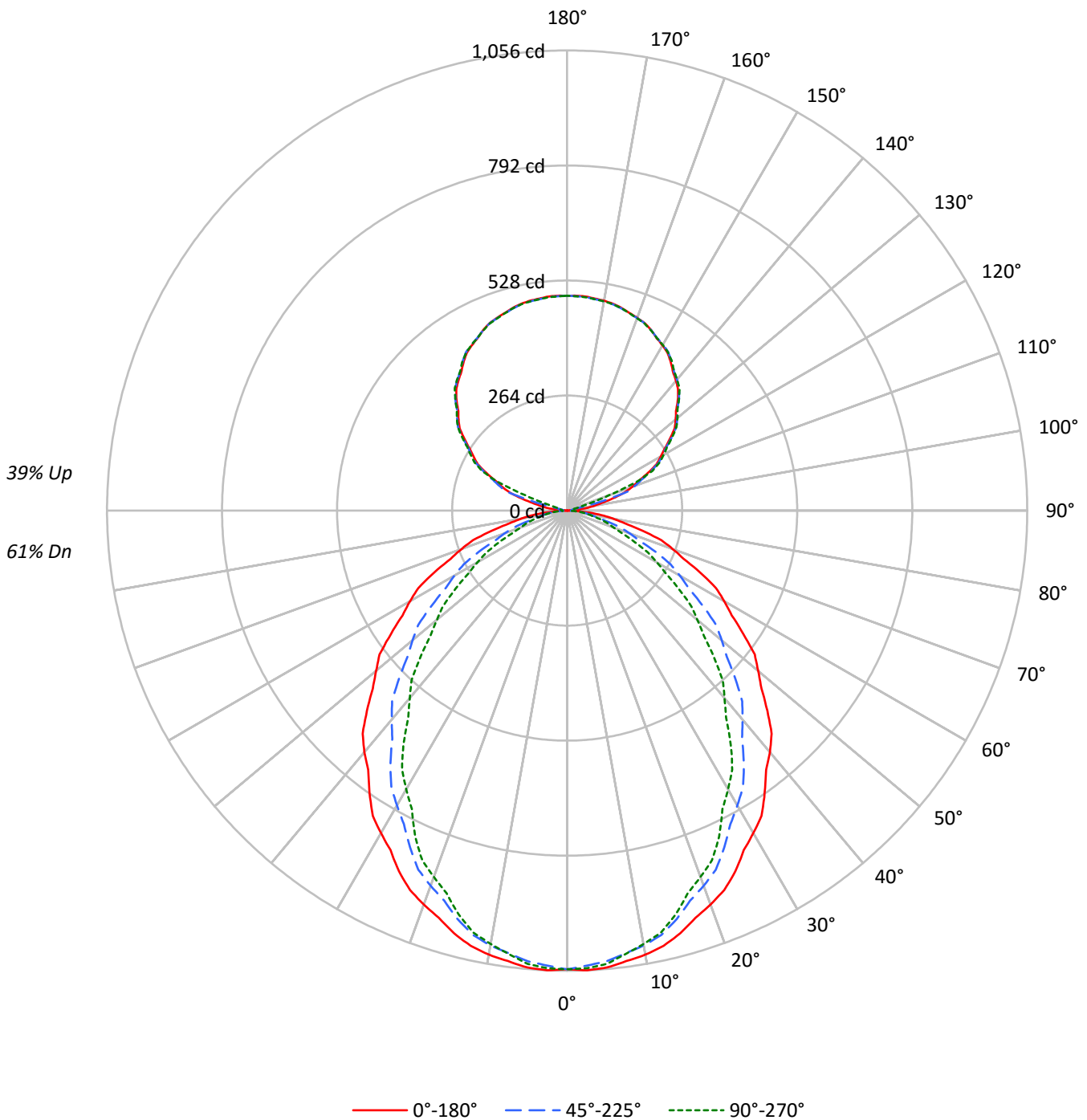
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	66	66	66	61
1	101	96	93	89	94	90	87	84	79	77	75	69	67	65	59	58	57	52
2	92	85	79	74	86	80	74	70	70	66	62	61	58	55	53	51	49	45
3	84	75	68	62	79	70	64	59	62	57	53	54	50	47	47	44	42	38
4	77	67	59	53	72	63	56	50	55	50	45	49	44	41	42	39	36	33
5	71	60	51	45	66	56	49	43	50	44	39	44	39	36	38	35	32	29
6	66	54	45	40	61	51	43	38	45	39	35	40	35	31	35	31	28	26
7	61	49	41	35	57	46	39	34	41	35	31	36	32	28	32	28	25	23
8	57	44	36	31	53	42	35	30	37	32	27	33	29	25	29	26	23	21
9	53	41	33	28	49	38	32	27	34	29	25	31	26	23	27	23	21	19
10	49	37	30	25	46	35	29	24	32	26	22	28	24	21	25	22	19	17

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

	0°	45°	90°
0°	11330	11330	11330
5°	11373	11217	11282
10°	11309	11075	11038
15°	11188	10816	10702
20°	11021	10493	10247
25°	10849	10128	9804
30°	10621	9708	9178
35°	10387	9289	8604
40°	10172	8792	7893
45°	9889	8304	7252
50°	9577	7748	6532
55°	9259	7112	5863
60°	8968	6433	5126
65°	8588	5695	4391
70°	8113	4784	3547
75°	7419	3764	3335
80°	6614	3335	3068
85°	5582	2952	2742



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	98.8	2.5
10°-20°	275.0	7.1
20°-30°	396.0	10.2
30°-40°	446.1	11.5
40°-50°	426.7	11.0
50°-60°	349.5	9.0
60°-70°	235.8	6.1
70°-80°	118.6	3.1
80°-90°	32.8	0.8
90°-100°	17.9	0.5
100°-110°	85.4	2.2
110°-120°	205.2	5.3
120°-130°	261.3	6.7
130°-140°	279.2	7.2
140°-150°	261.1	6.7
150°-160°	210.6	5.4
160°-170°	135.9	3.5
170°-180°	46.8	1.2
0°-30°	769.9	19.8
0°-40°	1215.9	31.3
0°-60°	1992.1	51.3
0°-90°	2379.3	61.3
90°-120°	308.6	7.9
90°-150°	1110.2	28.6
90°-180°	1504.0	38.7
0°-180°	3882.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1053	1053	1053	1053	1053	
5°	1053	1048	1038	1045	1044	100
15°	1004	994	971	966	960	283
25°	914	891	853	835	826	420
35°	790	759	707	671	655	495
45°	650	610	546	498	476	501
55°	493	450	379	331	312	442
65°	337	289	224	184	172	334
75°	178	137	90	82	80	190
85°	45	27	24	22	22	51
90°	0	4	9	10	11	3
95°	22	8	11	14	14	28
105°	109	111	80	19	16	116
115°	205	207	210	214	215	202
125°	289	291	293	294	294	258
135°	359	362	363	364	363	277
145°	415	417	418	419	419	259
155°	457	456	456	458	456	210
165°	482	481	480	483	481	136
175°	493	491	492	494	491	47
180°	493	493	493	493	493	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6
2.5°	1056.0	1055.4	1054.8	1054.2	1053.6	1052.4	1050.5	1048.7	1046.9	1045.1	1046.8
5°	1052.6	1051.7	1050.7	1049.8	1048.8	1047.2	1044.9	1042.6	1040.3	1038.1	1039.8
7.5°	1042.8	1041.9	1040.8	1039.8	1038.8	1036.7	1033.8	1030.9	1027.9	1024.9	1025.9
10°	1034.7	1033.3	1032.0	1030.7	1029.3	1027.0	1023.5	1020.2	1016.8	1013.3	1013.5
12.5°	1023.0	1021.6	1020.1	1018.6	1017.2	1014.3	1010.2	1006.0	1001.8	997.6	997.5
15°	1004.0	1001.8	999.7	997.7	995.6	991.9	986.6	981.3	975.9	970.6	969.7
17.5°	979.8	977.5	975.0	972.6	970.1	965.6	958.8	952.0	945.3	938.6	936.5
20°	962.1	959.0	956.0	953.0	950.0	944.9	937.6	930.4	923.2	916.0	913.5
22.5°	942.3	938.8	935.3	931.8	928.3	922.8	915.1	907.4	899.8	892.1	889.0
25°	913.5	908.7	903.9	899.2	894.5	887.7	879.0	870.3	861.5	852.8	848.8
27.5°	878.4	873.2	868.0	862.7	857.5	850.0	840.3	830.6	820.8	811.1	805.6
30°	854.5	848.8	843.2	837.5	831.8	823.6	813.0	802.3	791.7	781.1	774.7
32.5°	830.6	824.2	817.7	811.3	804.9	796.0	784.7	773.6	762.3	751.1	744.0
35°	790.5	783.7	776.8	770.1	763.2	753.9	742.2	730.3	718.6	706.9	698.7
37.5°	749.9	742.2	734.7	727.1	719.5	709.5	696.9	684.4	671.8	659.3	650.0
40°	723.9	715.6	707.2	698.9	690.6	679.6	666.2	652.7	639.2	625.7	615.9
42.5°	694.6	686.2	677.8	669.5	661.2	650.0	636.1	622.2	608.3	594.4	583.6
45°	649.6	641.2	632.6	624.0	615.5	604.0	589.3	574.7	560.1	545.5	534.7
47.5°	604.8	595.4	586.0	576.7	567.3	555.3	540.7	526.0	511.4	496.8	485.1
50°	571.9	563.0	554.2	545.2	536.3	524.2	508.8	493.4	478.1	462.7	450.9
52.5°	542.6	533.0	523.3	513.6	503.9	491.5	476.2	461.1	445.8	430.6	418.4
55°	493.4	484.1	474.8	465.5	456.2	443.5	427.4	411.3	395.2	379.0	368.0
57.5°	448.0	437.9	427.8	417.6	407.5	394.4	378.1	361.9	345.7	329.5	319.1
60°	416.6	406.2	395.7	385.3	374.9	361.7	346.0	330.3	314.5	298.8	288.5
62.5°	385.1	374.7	364.3	353.8	343.5	330.4	314.6	298.9	283.2	267.3	257.7
65°	337.2	326.8	316.3	305.9	295.5	282.8	268.1	253.2	238.5	223.6	214.3
67.5°	289.3	278.7	268.2	257.6	247.0	234.6	220.5	206.3	192.1	177.9	171.0
70°	257.8	247.6	237.3	227.1	216.9	205.0	191.8	178.6	165.3	152.0	145.3
72.5°	226.4	216.3	206.2	196.1	186.1	175.0	162.9	150.8	138.8	126.7	121.2
75°	178.4	169.3	160.2	151.1	142.0	132.2	121.8	111.4	100.9	90.5	88.6
77.5°	134.7	126.5	118.2	110.0	101.7	94.3	87.6	80.9	74.2	67.4	66.4
80°	106.7	98.9	91.2	83.4	75.6	69.7	65.7	61.7	57.8	53.8	53.2
82.5°	80.1	73.4	66.6	59.9	53.2	48.9	47.0	45.2	43.4	41.5	40.9
85°	45.2	41.1	36.9	32.7	28.5	26.2	25.6	25.0	24.5	23.9	23.6
87.5°	16.5	14.9	13.5	11.9	10.4	9.8	10.0	10.2	10.4	10.6	10.5
90°	0.3	1.1	2.0	2.8	3.6	4.6	5.6	6.7	7.7	8.8	9.1
92.5°	6.8	6.6	6.4	6.1	5.9	6.2	7.0	7.7	8.6	9.4	9.9
95°	22.3	19.0	15.7	12.3	9.0	7.7	8.6	9.5	10.4	11.3	11.9
97.5°	44.9	43.4	41.9	40.4	38.9	35.2	29.4	23.5	17.7	11.8	12.5
100°	61.9	63.5	65.1	66.8	68.4	62.9	50.2	37.5	24.8	12.1	12.7
102.5°	81.2	82.4	83.6	84.8	85.9	79.6	65.7	51.9	38.0	24.1	22.1
105°	109.2	110.1	111.0	111.9	112.8	109.5	102.2	94.9	87.6	80.2	65.8
107.5°	138.6	139.3	140.1	140.7	141.5	142.4	143.6	144.7	145.9	147.0	136.5
110°	158.2	158.9	159.6	160.2	160.9	161.6	162.5	163.4	164.3	165.2	162.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.0	177.6	178.1	178.7	179.4	180.1	181.0	181.9	182.8	183.7	183.7
115°	204.7	205.2	205.7	206.2	206.7	207.3	208.1	208.8	209.5	210.3	211.1
117.5°	231.6	232.3	232.8	233.4	234.1	234.6	234.9	235.3	235.7	236.0	236.7
120°	248.3	249.1	249.8	250.5	251.3	251.8	252.0	252.3	252.5	252.7	253.4
122.5°	265.4	266.0	266.5	267.2	267.7	268.2	268.6	268.8	269.1	269.5	269.9
125°	288.6	289.3	289.9	290.6	291.2	291.7	292.0	292.4	292.7	293.0	293.2
127.5°	311.2	311.9	312.5	313.2	313.8	314.3	314.7	315.1	315.5	315.9	316.2
130°	325.3	326.0	326.6	327.3	327.9	328.4	328.7	329.1	329.4	329.6	330.0
132.5°	338.8	339.4	340.1	340.7	341.4	341.8	342.1	342.3	342.6	342.8	343.2
135°	359.3	359.8	360.3	360.8	361.3	361.7	362.0	362.3	362.6	363.0	363.2
137.5°	376.9	377.6	378.1	378.8	379.4	379.8	380.0	380.2	380.3	380.5	380.9
140°	388.7	389.1	389.6	390.1	390.6	390.9	391.2	391.4	391.7	391.9	392.2
142.5°	399.5	400.0	400.5	401.0	401.5	401.8	402.0	402.3	402.5	402.8	403.0
145°	414.7	415.2	415.8	416.4	416.9	417.3	417.4	417.6	417.8	417.9	418.1
147.5°	428.9	429.3	429.7	430.1	430.4	430.7	430.9	431.0	431.2	431.4	431.5
150°	437.7	438.0	438.2	438.5	438.7	438.9	439.0	439.2	439.4	439.5	439.7
152.5°	445.6	445.7	445.9	446.0	446.1	446.2	446.3	446.4	446.5	446.6	446.9
155°	456.7	456.6	456.4	456.3	456.2	456.1	456.2	456.2	456.3	456.4	456.8
157.5°	465.5	465.4	465.4	465.4	465.4	465.3	465.2	465.1	465.0	465.0	465.5
160°	470.7	470.6	470.5	470.4	470.3	470.3	470.2	470.1	470.0	469.9	470.4
162.5°	475.6	475.5	475.2	475.1	474.8	474.7	474.6	474.5	474.4	474.3	474.9
165°	481.7	481.4	481.2	480.9	480.7	480.5	480.5	480.4	480.3	480.2	480.9
167.5°	486.4	486.1	485.8	485.4	485.1	484.9	484.9	484.9	484.9	484.9	485.6
170°	489.0	488.7	488.4	488.0	487.7	487.5	487.5	487.5	487.5	487.5	488.2
172.5°	490.7	490.4	490.0	489.6	489.2	489.0	489.1	489.2	489.3	489.3	489.9
175°	493.0	492.6	492.2	491.8	491.4	491.2	491.3	491.4	491.5	491.5	492.1
177.5°	493.6	493.3	492.9	492.6	492.3	492.2	492.3	492.3	492.4	492.4	492.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6	1052.6
2.5°	1048.4	1050.1	1051.7	1052.5	1052.1	1051.8	1051.5	1051.2
5°	1041.5	1043.2	1044.9	1045.5	1045.2	1044.8	1044.4	1044.1
7.5°	1026.9	1027.8	1028.7	1028.9	1028.3	1027.6	1027.0	1026.3
10°	1013.7	1013.9	1014.1	1013.7	1012.8	1011.8	1010.9	1009.9
12.5°	997.4	997.3	997.2	996.5	995.5	994.3	993.3	992.1
15°	968.7	967.8	966.9	965.7	964.4	963.0	961.7	960.4
17.5°	934.5	932.5	930.5	928.5	926.5	924.5	922.6	920.6
20°	911.1	908.6	906.1	903.8	901.5	899.2	896.9	894.6
22.5°	886.0	882.9	879.8	877.2	875.1	872.9	870.8	868.7
25°	844.9	840.9	836.9	833.9	831.8	829.6	827.6	825.5
27.5°	800.1	794.6	789.0	784.6	781.5	778.3	775.1	771.9
30°	768.3	761.7	755.3	750.6	747.5	744.5	741.4	738.4
32.5°	736.9	729.9	722.8	717.7	714.5	711.3	708.2	705.0
35°	690.6	682.4	674.3	668.5	665.0	661.6	658.2	654.8
37.5°	640.7	631.4	622.2	615.5	611.2	607.0	602.8	598.6
40°	606.0	596.1	586.3	579.2	574.8	570.5	566.1	561.7
42.5°	572.7	562.0	551.2	543.9	540.0	536.1	532.1	528.2
45°	523.9	513.1	502.2	494.6	490.0	485.4	480.9	476.4
47.5°	473.3	461.5	449.8	441.9	437.8	433.7	429.7	425.7
50°	439.2	427.4	415.6	407.6	403.2	398.8	394.5	390.1
52.5°	406.2	394.0	381.7	373.7	369.7	365.8	361.9	358.0
55°	357.0	346.0	335.0	327.6	323.8	320.0	316.3	312.4
57.5°	308.8	298.3	288.0	281.1	277.9	274.7	271.4	268.2
60°	278.3	268.1	257.8	251.1	247.9	244.6	241.4	238.1
62.5°	248.1	238.5	228.9	222.3	218.9	215.6	212.2	208.8
65°	205.0	195.8	186.5	180.8	178.7	176.6	174.6	172.4
67.5°	164.0	157.1	150.1	145.5	143.3	141.0	138.8	136.6
70°	138.7	132.0	125.4	121.1	119.0	116.8	114.8	112.7
72.5°	115.9	110.4	105.0	101.8	100.9	100.1	99.2	98.3
75°	86.7	84.8	82.9	81.8	81.4	81.0	80.6	80.2
77.5°	65.4	64.3	63.3	62.6	62.3	61.9	61.5	61.1
80°	52.7	52.1	51.5	51.0	50.6	50.3	49.9	49.5
82.5°	40.4	39.8	39.2	38.9	38.8	38.7	38.6	38.6
85°	23.2	22.7	22.4	22.2	22.2	22.2	22.2	22.2
87.5°	10.4	10.4	10.3	10.2	10.0	9.9	9.9	9.7
90°	9.5	9.8	10.1	10.4	10.5	10.7	10.8	11.0
92.5°	10.4	10.9	11.5	11.7	11.9	12.0	12.1	12.1
95°	12.5	13.0	13.6	13.9	13.9	13.9	13.9	13.9
97.5°	13.1	13.8	14.4	14.8	14.8	14.9	15.0	15.1
100°	13.4	14.0	14.7	15.1	15.2	15.2	15.3	15.4
102.5°	20.1	18.0	16.1	15.1	15.2	15.4	15.5	15.7
105°	51.4	37.0	22.6	15.5	15.7	15.8	16.0	16.1
107.5°	125.9	115.4	104.8	94.1	83.2	72.3	61.5	50.6
110°	159.8	157.1	154.4	147.3	135.7	124.0	112.3	100.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	183.8	183.8	183.8	182.6	180.2	177.7	175.3	172.8
115°	211.9	212.7	213.5	214.1	214.4	214.7	215.1	215.4
117.5°	237.3	238.0	238.6	239.0	239.0	239.1	239.2	239.3
120°	254.0	254.7	255.4	255.7	255.7	255.7	255.7	255.7
122.5°	270.4	270.8	271.3	271.5	271.6	271.7	271.7	271.8
125°	293.3	293.5	293.7	293.8	294.0	294.2	294.3	294.5
127.5°	316.4	316.7	316.9	317.0	316.8	316.7	316.5	316.3
130°	330.3	330.6	330.9	331.0	330.8	330.7	330.5	330.4
132.5°	343.5	343.8	344.1	344.2	344.0	343.7	343.5	343.3
135°	363.5	363.7	363.9	363.9	363.7	363.5	363.2	363.0
137.5°	381.3	381.6	382.0	382.2	382.0	381.9	381.7	381.6
140°	392.6	392.9	393.2	393.3	393.1	393.0	392.8	392.6
142.5°	403.3	403.6	403.8	403.8	403.6	403.4	403.2	402.9
145°	418.2	418.4	418.6	418.7	418.7	418.7	418.7	418.7
147.5°	431.7	431.9	432.0	431.9	431.5	431.1	430.8	430.4
150°	439.9	440.0	440.2	440.2	439.9	439.7	439.4	439.2
152.5°	447.2	447.4	447.8	447.7	447.4	446.9	446.6	446.2
155°	457.2	457.6	458.0	458.0	457.5	457.0	456.5	456.1
157.5°	465.9	466.4	466.9	466.8	466.2	465.6	465.0	464.3
160°	470.9	471.4	471.9	471.9	471.3	470.8	470.2	469.6
162.5°	475.5	476.1	476.5	476.6	476.1	475.6	475.1	474.6
165°	481.5	482.2	482.8	482.8	482.2	481.8	481.2	480.6
167.5°	486.2	486.8	487.5	487.5	486.8	486.2	485.6	484.9
170°	488.9	489.5	490.2	490.2	489.5	488.9	488.2	487.5
172.5°	490.6	491.2	491.9	491.9	491.1	490.4	489.8	489.0
175°	492.7	493.3	493.8	493.8	493.2	492.5	491.9	491.2
177.5°	493.5	494.0	494.6	494.5	493.8	493.2	492.5	491.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0

(END OF REPORT)