

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: P331559-927

Luminaire Tested: **S122DIW-S865D435U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331559-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D435U927-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4153.8 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

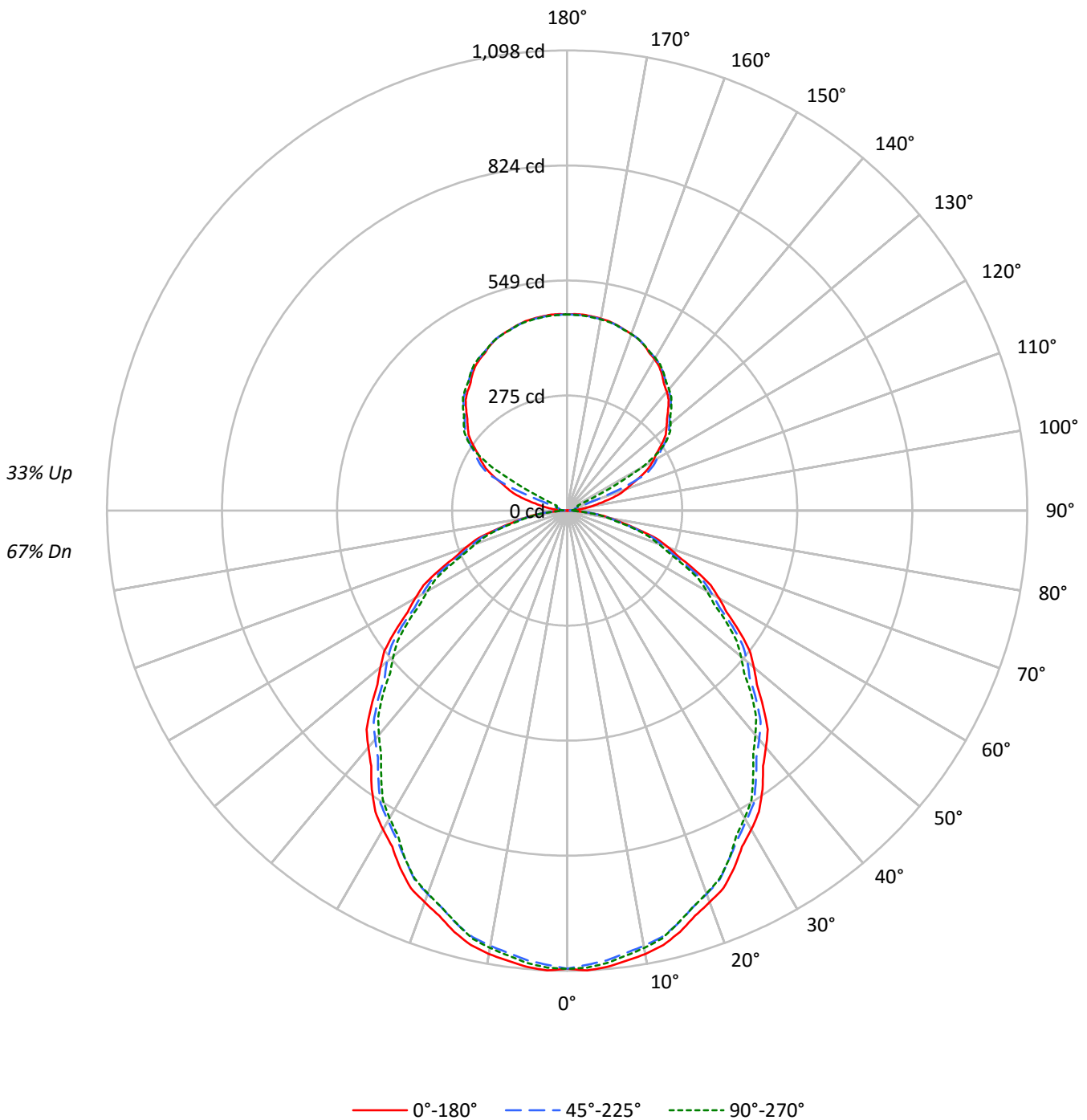
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	97	93	90	96	92	88	85	81	79	76	72	70	68	63	62	61	56
2	93	85	79	73	87	80	75	70	71	67	63	63	60	57	56	53	51	47
3	84	75	67	61	79	71	64	58	63	58	53	56	52	48	49	46	43	40
4	77	66	58	52	73	63	55	50	56	50	45	50	45	41	44	41	37	34
5	71	59	51	45	67	56	48	43	50	44	39	45	40	36	40	36	33	30
6	66	53	45	39	62	50	43	37	45	39	34	41	36	32	36	32	29	26
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	26	23
8	56	44	36	30	53	42	34	29	38	32	27	34	29	25	30	26	23	21
9	53	40	32	27	50	38	31	26	35	29	24	31	26	23	28	24	21	19
10	49	37	29	24	46	35	28	24	32	26	22	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17651	17651	17651
5°	17718	17462	17566
10°	17613	17285	17372
15°	17396	17061	17043
20°	17086	16725	16706
25°	16778	16311	16311
30°	16384	15933	15795
35°	16015	15477	15248
40°	15553	15022	14733
45°	15098	14570	14209
50°	14601	14099	13599
55°	14083	13551	13050
60°	13511	12897	12426
65°	12894	12248	11687
70°	12109	11462	10914
75°	11017	10555	10293
80°	9772	9484	8991
85°	7984	7595	6817



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.8	2.5
10°-20°	289.3	7.0
20°-30°	425.2	10.2
30°-40°	493.9	11.9
40°-50°	493.3	11.9
50°-60°	430.2	10.4
60°-70°	318.1	7.7
70°-80°	180.2	4.3
80°-90°	49.6	1.2
90°-100°	15.6	0.4
100°-110°	57.2	1.4
110°-120°	153.0	3.7
120°-130°	252.6	6.1
130°-140°	268.6	6.5
140°-150°	249.7	6.0
150°-160°	200.7	4.8
160°-170°	129.3	3.1
170°-180°	44.5	1.1
0°-30°	817.2	19.7
0°-40°	1311.1	31.6
0°-60°	2234.6	53.8
0°-90°	2782.5	67.0
90°-120°	225.9	5.4
90°-150°	996.7	24.0
90°-180°	1371.0	33.0
0°-180°	4153.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1093	1089	1077	1085	1084	104
15°	1041	1034	1021	1024	1020	293
25°	942	933	916	917	916	433
35°	812	802	785	779	774	507
45°	661	653	638	627	622	510
55°	500	494	481	469	464	447
65°	338	331	321	311	306	334
75°	177	174	169	163	165	189
85°	43	42	41	38	37	49
90°	0	4	7	8	9	3
95°	22	12	13	15	15	27
105°	103	107	21	24	26	110
115°	195	201	209	60	28	192
125°	275	280	286	288	290	245
135°	341	346	349	352	352	263
145°	395	395	400	403	401	247
155°	435	432	436	438	436	200
165°	458	457	457	460	457	129
175°	469	467	467	469	466	45
180°	468	468	468	468	468	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1098.3	1097.3	1096.4	1095.5	1094.6	1093.1	1091.0	1088.9	1086.9	1084.8	1086.7
5°	1093.2	1092.3	1091.4	1090.4	1089.5	1087.7	1085.2	1082.6	1080.1	1077.4	1079.3
7.5°	1083.5	1082.1	1080.7	1079.2	1077.8	1075.7	1073.1	1070.5	1067.9	1065.2	1067.1
10°	1074.3	1072.7	1071.0	1069.4	1067.8	1065.6	1062.7	1059.9	1057.2	1054.3	1056.2
12.5°	1061.7	1060.3	1058.8	1057.3	1055.9	1053.8	1051.0	1048.1	1045.4	1042.6	1043.9
15°	1040.7	1039.3	1037.8	1036.5	1035.1	1032.8	1029.8	1026.7	1023.7	1020.7	1021.6
17.5°	1013.8	1012.3	1011.0	1009.6	1008.1	1005.9	1002.8	999.7	996.6	993.6	994.7
20°	994.4	993.0	991.7	990.2	988.8	986.5	983.2	979.9	976.7	973.4	974.1
22.5°	975.1	973.1	971.1	969.2	967.3	964.7	961.6	958.5	955.5	952.4	952.5
25°	941.8	940.0	938.1	936.3	934.4	931.4	927.5	923.5	919.6	915.6	916.1
27.5°	904.0	902.4	900.6	899.0	897.3	894.8	891.8	888.6	885.5	882.3	881.7
30°	878.8	876.9	875.0	873.2	871.3	868.6	865.1	861.7	858.1	854.6	853.9
32.5°	851.9	850.4	848.9	847.4	845.9	843.3	839.6	835.9	832.3	828.5	827.3
35°	812.5	810.2	807.9	805.6	803.2	800.2	796.5	792.7	788.9	785.2	783.9
37.5°	768.2	766.1	764.1	762.0	760.0	757.1	753.4	749.6	745.8	742.1	740.4
40°	737.9	736.1	734.2	732.3	730.5	727.6	723.9	720.2	716.4	712.7	710.6
42.5°	708.5	706.6	704.7	702.9	701.0	698.2	694.5	690.8	687.0	683.3	681.0
45°	661.2	659.6	657.9	656.3	654.7	652.0	648.6	645.1	641.6	638.1	635.5
47.5°	614.1	612.6	611.0	609.5	607.9	605.3	601.7	598.0	594.4	590.7	588.0
50°	581.3	580.1	579.0	577.8	576.6	574.4	571.2	567.8	564.6	561.3	558.1
52.5°	549.4	547.8	546.3	544.7	543.2	540.9	537.8	534.7	531.6	528.5	525.9
55°	500.3	499.0	497.6	496.1	494.7	492.7	489.9	487.0	484.3	481.4	478.6
57.5°	451.1	450.0	448.9	447.8	446.7	444.6	441.5	438.4	435.3	432.2	429.5
60°	418.4	417.4	416.5	415.6	414.6	412.6	409.2	406.0	402.7	399.4	396.9
62.5°	386.4	384.9	383.4	381.9	380.4	378.4	375.9	373.4	370.8	368.4	366.0
65°	337.5	336.0	334.6	333.2	331.8	329.9	327.6	325.3	323.0	320.6	318.5
67.5°	287.6	286.5	285.3	284.2	283.1	281.5	279.4	277.3	275.2	273.1	271.5
70°	256.5	255.6	254.6	253.7	252.8	251.2	249.1	247.0	244.9	242.8	241.2
72.5°	224.5	223.6	222.7	221.7	220.8	219.7	218.3	217.0	215.6	214.2	212.6
75°	176.6	176.1	175.6	175.2	174.8	173.9	172.8	171.6	170.4	169.2	167.9
77.5°	133.7	132.9	132.1	131.3	130.6	129.9	129.4	129.0	128.5	128.0	127.3
80°	105.1	104.9	104.6	104.4	104.2	103.9	103.4	102.9	102.4	102.0	101.2
82.5°	78.2	78.2	78.1	78.0	78.0	77.9	77.6	77.3	77.0	76.8	75.8
85°	43.1	42.9	42.6	42.4	42.1	41.9	41.7	41.4	41.2	41.0	40.3
87.5°	15.2	15.0	14.8	14.6	14.3	14.2	13.9	13.6	13.4	13.2	12.7
90°	0.3	1.2	2.0	2.9	3.6	4.4	5.0	5.5	6.2	6.7	7.1
92.5°	6.8	6.7	6.7	6.6	6.6	6.7	7.0	7.3	7.5	7.8	8.1
95°	22.0	19.5	17.0	14.6	12.0	11.1	11.6	12.1	12.7	13.2	13.5
97.5°	43.6	36.7	29.7	22.7	15.7	12.8	14.0	15.2	16.5	17.7	18.0
100°	60.0	49.6	39.3	29.0	18.7	14.2	15.4	16.7	18.0	19.3	19.9
102.5°	77.8	75.7	73.4	71.3	69.1	62.7	52.0	41.3	30.6	19.8	20.6
105°	102.9	105.2	107.4	109.7	111.9	102.8	82.3	61.7	41.2	20.7	21.5
107.5°	131.6	133.4	135.2	137.0	138.9	127.5	102.8	78.2	53.6	28.9	28.0
110°	150.0	151.5	153.1	154.7	156.3	146.2	124.5	102.7	81.0	59.3	51.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	167.3	168.7	170.2	171.5	172.9	171.0	165.6	160.2	154.8	149.5	122.0
115°	194.7	196.0	197.3	198.5	199.8	201.4	203.3	205.2	207.0	208.9	174.0
117.5°	219.1	220.5	222.0	223.4	224.8	226.2	227.5	228.8	230.1	231.4	223.0
120°	237.0	238.1	239.2	240.4	241.5	242.8	244.2	245.5	246.8	248.2	249.1
122.5°	252.2	253.3	254.5	255.7	256.9	258.3	259.8	261.2	262.7	264.2	264.7
125°	275.3	276.2	277.3	278.2	279.2	280.4	281.9	283.3	284.7	286.1	286.6
127.5°	296.2	297.3	298.3	299.4	300.6	301.6	302.7	303.7	304.8	305.9	306.7
130°	309.5	310.7	311.9	313.1	314.3	315.3	316.2	317.0	317.8	318.6	319.4
132.5°	323.1	324.0	325.0	326.1	327.1	328.0	328.8	329.7	330.5	331.4	332.1
135°	340.6	341.8	343.0	344.2	345.5	346.3	347.1	347.8	348.4	349.1	349.8
137.5°	358.5	359.3	360.1	361.0	361.8	362.6	363.4	364.2	364.9	365.7	366.4
140°	370.1	370.7	371.3	371.9	372.5	373.2	374.1	374.9	375.7	376.5	377.2
142.5°	379.9	380.4	380.9	381.4	382.0	382.8	383.7	384.6	385.6	386.5	387.1
145°	395.1	395.1	395.0	394.9	394.8	395.5	396.7	398.0	399.3	400.5	401.1
147.5°	408.4	408.2	407.9	407.7	407.3	407.8	409.1	410.4	411.6	412.9	413.3
150°	417.2	416.6	416.1	415.6	415.0	415.3	416.6	417.8	419.0	420.2	420.6
152.5°	424.5	423.9	423.3	422.7	422.1	422.4	423.5	424.7	425.8	427.0	427.4
155°	435.1	434.4	433.7	433.1	432.4	432.5	433.4	434.3	435.2	436.1	436.6
157.5°	443.4	442.8	442.3	441.7	441.2	441.2	441.8	442.4	443.1	443.7	444.2
160°	448.3	447.8	447.4	446.9	446.5	446.5	446.9	447.4	447.8	448.3	448.8
162.5°	452.7	452.2	451.7	451.3	450.8	450.8	451.1	451.5	451.9	452.3	452.9
165°	458.4	458.0	457.6	457.1	456.6	456.5	456.8	457.0	457.2	457.4	458.0
167.5°	462.8	462.3	461.9	461.4	461.0	460.9	461.1	461.3	461.5	461.7	462.2
170°	465.2	464.8	464.3	463.9	463.4	463.3	463.4	463.6	463.7	463.9	464.4
172.5°	466.8	466.4	466.0	465.5	465.0	464.9	465.0	465.2	465.3	465.5	466.0
175°	469.0	468.4	467.9	467.4	466.8	466.7	466.8	467.0	467.1	467.2	467.8
177.5°	469.3	468.9	468.4	468.0	467.6	467.4	467.5	467.5	467.6	467.6	468.1
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1088.5	1090.4	1092.3	1093.1	1092.7	1092.3	1091.9	1091.5
5°	1081.2	1083.1	1085.0	1085.6	1085.2	1084.7	1084.3	1083.8
7.5°	1069.0	1070.9	1072.8	1073.4	1072.9	1072.4	1071.9	1071.3
10°	1058.0	1059.9	1061.8	1062.4	1061.7	1061.0	1060.3	1059.6
12.5°	1045.2	1046.5	1047.8	1048.2	1047.7	1047.2	1046.6	1046.2
15°	1022.5	1023.5	1024.5	1024.3	1023.2	1022.0	1020.8	1019.6
17.5°	995.7	996.8	997.9	997.8	996.7	995.6	994.5	993.4
20°	974.8	975.5	976.2	976.0	975.2	974.2	973.3	972.3
22.5°	952.7	952.8	952.9	952.8	952.1	951.6	951.0	950.5
25°	916.6	917.0	917.4	917.4	917.0	916.6	916.1	915.6
27.5°	881.0	880.3	879.6	878.7	877.5	876.4	875.3	874.2
30°	853.2	852.5	851.8	851.0	850.1	849.1	848.2	847.2
32.5°	826.0	824.7	823.5	822.4	821.5	820.5	819.6	818.6
35°	782.4	781.0	779.7	778.3	777.2	776.0	774.8	773.6
37.5°	738.7	737.0	735.2	733.8	732.7	731.6	730.5	729.3
40°	708.5	706.4	704.3	702.7	701.9	700.9	700.0	699.0
42.5°	678.7	676.4	674.1	672.3	671.0	669.7	668.4	667.1
45°	633.0	630.3	627.8	626.1	625.1	624.2	623.2	622.3
47.5°	585.3	582.7	580.0	577.9	576.6	575.2	573.9	572.5
50°	554.8	551.5	548.3	546.1	544.9	543.7	542.6	541.4
52.5°	523.1	520.4	517.7	515.6	514.0	512.5	511.0	509.4
55°	475.9	473.0	470.2	468.3	467.1	465.9	464.8	463.6
57.5°	426.7	424.0	421.2	419.4	418.5	417.6	416.8	415.8
60°	394.3	391.7	389.2	387.5	386.8	386.1	385.4	384.8
62.5°	363.5	361.2	358.8	357.2	356.2	355.4	354.5	353.6
65°	316.4	314.3	312.2	310.5	309.4	308.2	307.0	305.9
67.5°	269.8	268.2	266.6	265.3	264.4	263.4	262.4	261.5
70°	239.6	237.9	236.3	235.0	234.1	233.1	232.2	231.2
72.5°	211.0	209.3	207.7	206.5	205.7	205.0	204.2	203.5
75°	166.4	165.0	163.7	163.2	163.7	164.1	164.5	165.0
77.5°	126.7	126.0	125.2	124.5	123.9	123.3	122.6	121.9
80°	100.5	99.9	99.2	98.5	98.1	97.7	97.2	96.7
82.5°	74.9	74.1	73.2	72.7	72.6	72.5	72.4	72.3
85°	39.6	38.9	38.2	37.7	37.5	37.2	37.0	36.8
87.5°	12.1	11.6	11.2	10.9	10.7	10.5	10.4	10.2
90°	7.5	7.9	8.2	8.6	8.7	8.9	9.0	9.1
92.5°	8.2	8.5	8.6	8.8	8.9	9.0	9.0	9.1
95°	13.9	14.3	14.7	14.9	14.8	14.7	14.7	14.6
97.5°	18.3	18.6	18.9	19.1	19.2	19.3	19.3	19.4
100°	20.5	21.1	21.7	22.1	22.3	22.4	22.5	22.7
102.5°	21.4	22.2	23.0	23.4	23.7	23.9	24.1	24.3
105°	22.3	23.1	24.0	24.6	24.8	25.1	25.4	25.7
107.5°	27.3	26.4	25.5	25.3	25.6	25.9	26.1	26.5
110°	44.2	36.7	29.2	25.5	25.8	26.1	26.5	26.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	94.6	67.1	39.7	26.1	26.3	26.5	26.8	27.0
115°	139.3	104.4	69.6	49.4	44.0	38.6	33.2	27.7
117.5°	214.5	206.1	197.6	184.6	166.8	148.9	131.2	113.4
120°	250.0	250.9	251.8	247.2	237.0	226.9	216.7	206.5
122.5°	265.2	265.8	266.3	265.6	263.6	261.7	259.7	257.7
125°	287.2	287.7	288.2	288.6	288.8	289.1	289.3	289.5
127.5°	307.4	308.2	309.0	309.3	309.4	309.4	309.5	309.5
130°	320.3	321.1	321.9	322.3	322.3	322.2	322.1	322.0
132.5°	332.8	333.4	334.1	334.5	334.4	334.3	334.3	334.2
135°	350.6	351.3	352.1	352.4	352.3	352.1	352.0	351.8
137.5°	367.2	367.9	368.6	368.8	368.6	368.4	368.1	367.8
140°	377.9	378.6	379.2	379.4	379.0	378.6	378.3	377.9
142.5°	387.8	388.4	389.0	389.1	388.7	388.4	388.0	387.6
145°	401.6	402.1	402.7	402.7	402.3	402.0	401.6	401.2
147.5°	413.7	414.1	414.5	414.5	414.2	413.8	413.5	413.2
150°	421.1	421.5	422.0	422.1	421.7	421.3	420.9	420.6
152.5°	427.9	428.3	428.8	428.7	428.3	427.8	427.2	426.7
155°	437.0	437.4	437.9	437.8	437.2	436.7	436.0	435.5
157.5°	444.7	445.2	445.8	445.7	445.1	444.5	443.9	443.4
160°	449.2	449.6	450.1	450.0	449.6	449.0	448.5	448.0
162.5°	453.4	453.9	454.4	454.3	453.7	453.0	452.4	451.8
165°	458.5	459.0	459.5	459.5	459.0	458.5	458.0	457.4
167.5°	462.8	463.3	463.8	463.7	463.0	462.4	461.7	461.1
170°	464.9	465.5	466.0	465.9	465.2	464.5	463.9	463.2
172.5°	466.5	467.1	467.6	467.5	466.8	466.2	465.5	464.9
175°	468.3	468.8	469.4	469.3	468.5	467.8	467.0	466.3
177.5°	468.5	468.9	469.4	469.3	468.7	468.2	467.6	467.1
180°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9

(END OF REPORT)