

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: P332432-940

Luminaire Tested: **S123RDIW-S775D460U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332432-940
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-S775D460U940-4F0-1E-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: 4246.7 lumens
Efficiency: N/A
Efficacy: 112.6 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

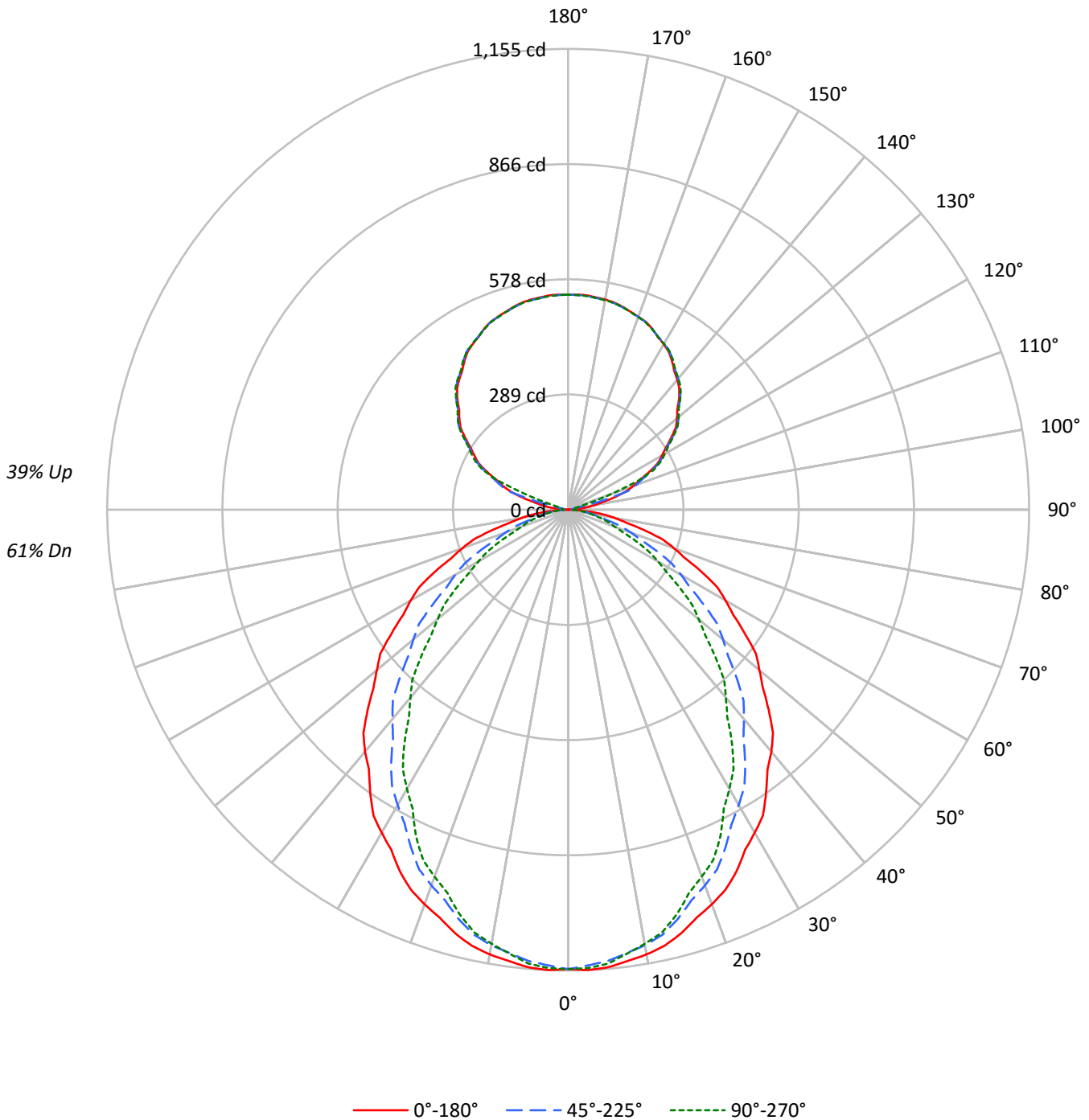
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	12392	12392	12392
5°	12440	12268	12338
10°	12369	12114	12073
15°	12237	11830	11705
20°	12054	11475	11208
25°	11866	11077	10723
30°	11616	10618	10038
35°	11361	10159	9410
40°	11126	9617	8633
45°	10816	9082	7931
50°	10474	8473	7145
55°	10128	7781	6412
60°	9810	7035	5608
65°	9393	6230	4804
70°	8875	5231	3877
75°	8114	4117	3647
80°	7234	3651	3353
85°	6113	3223	3001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.1	2.5
10°-20°	300.8	7.1
20°-30°	433.1	10.2
30°-40°	487.9	11.5
40°-50°	466.7	11.0
50°-60°	382.2	9.0
60°-70°	257.9	6.1
70°-80°	129.7	3.1
80°-90°	35.8	0.8
90°-100°	19.6	0.5
100°-110°	93.4	2.2
110°-120°	224.4	5.3
120°-130°	285.8	6.7
130°-140°	305.4	7.2
140°-150°	285.5	6.7
150°-160°	230.3	5.4
160°-170°	148.7	3.5
170°-180°	51.2	1.2
0°-30°	842.0	19.8
0°-40°	1329.9	31.3
0°-60°	2178.8	51.3
0°-90°	2602.3	61.3
90°-120°	337.5	7.9
90°-150°	1214.2	28.6
90°-180°	1644.0	38.7
0°-180°	4246.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1151	1151	1151	1151	1151	
5°	1151	1146	1135	1143	1142	109
15°	1098	1087	1062	1057	1050	309
25°	999	975	933	914	903	459
35°	865	830	773	734	716	541
45°	710	667	597	545	521	548
55°	540	492	415	362	342	484
65°	369	316	245	201	189	365
75°	195	150	99	90	88	208
85°	50	30	26	24	24	56
90°	0	4	10	11	12	4
95°	24	9	12	15	15	30
105°	119	122	88	21	18	127
115°	224	226	230	234	236	221
125°	316	319	320	321	322	282
135°	393	395	397	398	397	302
145°	454	456	457	458	458	284
155°	500	499	499	501	499	230
165°	527	526	525	528	526	149
175°	539	537	538	540	537	51
180°	539	539	539	539	539	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3
2.5°	1154.9	1154.3	1153.6	1153.0	1152.4	1151.0	1149.0	1147.0	1145.0	1143.0	1144.9
5°	1151.3	1150.2	1149.1	1148.2	1147.1	1145.3	1142.8	1140.3	1137.8	1135.4	1137.2
7.5°	1140.6	1139.5	1138.4	1137.2	1136.1	1133.9	1130.7	1127.5	1124.3	1121.0	1122.0
10°	1131.7	1130.2	1128.7	1127.3	1125.8	1123.2	1119.5	1115.8	1112.1	1108.3	1108.5
12.5°	1118.9	1117.3	1115.7	1114.1	1112.5	1109.4	1104.8	1100.3	1095.6	1091.1	1091.0
15°	1098.1	1095.7	1093.4	1091.2	1088.9	1084.9	1079.1	1073.3	1067.4	1061.6	1060.6
17.5°	1071.7	1069.1	1066.4	1063.7	1061.0	1056.1	1048.7	1041.3	1033.8	1026.5	1024.3
20°	1052.3	1048.9	1045.6	1042.3	1039.0	1033.4	1025.5	1017.6	1009.8	1001.8	999.2
22.5°	1030.6	1026.8	1023.0	1019.1	1015.3	1009.2	1000.9	992.5	984.1	975.7	972.3
25°	999.1	993.9	988.6	983.5	978.3	970.9	961.4	951.8	942.3	932.7	928.4
27.5°	960.7	955.0	949.3	943.6	937.9	929.7	919.1	908.5	897.8	887.2	881.1
30°	934.6	928.4	922.2	916.0	909.7	900.8	889.2	877.5	865.9	854.3	847.3
32.5°	908.5	901.4	894.4	887.3	880.3	870.6	858.3	846.1	833.7	821.4	813.8
35°	864.6	857.1	849.6	842.2	834.7	824.6	811.7	798.8	786.0	773.1	764.2
37.5°	820.2	811.8	803.5	795.2	786.9	776.0	762.2	748.5	734.8	721.0	710.9
40°	791.8	782.7	773.5	764.4	755.3	743.3	728.6	713.9	699.1	684.4	673.6
42.5°	759.6	750.6	741.4	732.3	723.2	711.0	695.7	680.5	665.3	650.1	638.3
45°	710.5	701.2	691.9	682.5	673.2	660.6	644.5	628.6	612.6	596.6	584.8
47.5°	661.5	651.2	641.0	630.7	620.5	607.3	591.4	575.3	559.4	543.4	530.6
50°	625.5	615.8	606.1	596.3	586.6	573.3	556.5	539.7	522.9	506.0	493.2
52.5°	593.4	582.9	572.3	561.7	551.2	537.5	520.8	504.3	487.6	470.9	457.6
55°	539.7	529.5	519.3	509.2	499.0	485.1	467.4	449.9	432.2	414.6	402.5
57.5°	490.0	478.9	467.9	456.7	445.7	431.3	413.6	395.8	378.1	360.4	349.0
60°	455.7	444.3	432.8	421.4	410.0	395.7	378.4	361.2	344.0	326.8	315.6
62.5°	421.2	409.8	398.4	387.0	375.7	361.3	344.1	326.9	309.7	292.4	281.9
65°	368.8	357.4	346.0	334.6	323.2	309.3	293.2	277.0	260.8	244.6	234.4
67.5°	316.4	304.8	293.3	281.7	270.2	256.6	241.1	225.6	210.1	194.6	187.0
70°	282.0	270.8	259.6	248.3	237.2	224.3	209.7	195.3	180.7	166.2	158.9
72.5°	247.6	236.6	225.5	214.5	203.5	191.4	178.2	165.0	151.8	138.6	132.6
75°	195.1	185.2	175.2	165.2	155.3	144.6	133.2	121.8	110.4	99.0	96.9
77.5°	147.3	138.3	129.3	120.3	111.3	103.2	95.8	88.5	81.1	73.7	72.7
80°	116.7	108.2	99.7	91.2	82.7	76.2	71.9	67.5	63.2	58.9	58.2
82.5°	87.6	80.3	72.9	65.5	58.2	53.5	51.5	49.4	47.4	45.4	44.8
85°	49.5	44.9	40.4	35.8	31.2	28.6	28.0	27.4	26.8	26.1	25.8
87.5°	18.0	16.3	14.7	13.0	11.4	10.7	11.0	11.1	11.4	11.6	11.5
90°	0.4	1.2	2.1	3.0	3.9	5.0	6.2	7.3	8.5	9.6	10.0
92.5°	7.5	7.2	7.0	6.7	6.4	6.8	7.7	8.5	9.4	10.3	10.8
95°	24.4	20.8	17.1	13.5	9.8	8.5	9.5	10.4	11.4	12.4	13.0
97.5°	49.1	47.4	45.8	44.2	42.5	38.5	32.1	25.7	19.4	12.9	13.6
100°	67.7	69.5	71.2	73.0	74.8	68.8	54.9	41.0	27.1	13.2	13.9
102.5°	88.8	90.2	91.4	92.7	94.0	87.0	71.9	56.7	41.6	26.4	24.2
105°	119.4	120.4	121.4	122.3	123.3	119.8	111.7	103.8	95.8	87.7	72.0
107.5°	151.6	152.4	153.2	153.9	154.7	155.8	157.0	158.3	159.5	160.8	149.3
110°	173.1	173.8	174.5	175.2	175.9	176.7	177.7	178.7	179.7	180.7	177.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	193.6	194.2	194.8	195.5	196.2	197.0	198.0	198.9	199.9	200.9	200.9
115°	223.9	224.4	225.0	225.5	226.0	226.8	227.6	228.4	229.2	230.0	230.9
117.5°	253.3	254.0	254.7	255.3	256.0	256.5	256.9	257.3	257.8	258.2	258.9
120°	271.6	272.4	273.2	274.0	274.8	275.4	275.6	275.9	276.2	276.4	277.1
122.5°	290.3	290.9	291.5	292.2	292.8	293.4	293.7	294.0	294.4	294.7	295.2
125°	315.7	316.4	317.1	317.8	318.5	319.1	319.4	319.8	320.1	320.5	320.7
127.5°	340.4	341.1	341.8	342.5	343.2	343.8	344.2	344.6	345.1	345.5	345.8
130°	355.8	356.5	357.2	357.9	358.6	359.2	359.5	359.9	360.3	360.5	360.9
132.5°	370.5	371.2	371.9	372.6	373.4	373.8	374.2	374.4	374.7	375.0	375.3
135°	393.0	393.5	394.0	394.6	395.1	395.6	395.9	396.3	396.6	397.0	397.3
137.5°	412.2	413.0	413.6	414.3	414.9	415.4	415.6	415.8	416.0	416.2	416.6
140°	425.1	425.6	426.1	426.7	427.2	427.6	427.8	428.1	428.4	428.6	429.0
142.5°	436.9	437.5	438.0	438.5	439.1	439.4	439.7	440.0	440.2	440.5	440.8
145°	453.5	454.1	454.8	455.4	456.0	456.4	456.6	456.7	456.9	457.1	457.3
147.5°	469.1	469.6	469.9	470.4	470.7	471.1	471.3	471.4	471.6	471.8	472.0
150°	478.8	479.0	479.3	479.6	479.8	480.0	480.2	480.4	480.5	480.7	480.9
152.5°	487.4	487.5	487.7	487.8	487.9	488.0	488.1	488.2	488.3	488.5	488.7
155°	499.5	499.4	499.2	499.1	498.9	498.8	498.9	499.0	499.1	499.2	499.6
157.5°	509.1	509.0	509.0	509.0	509.0	508.9	508.8	508.7	508.6	508.5	509.1
160°	514.8	514.7	514.6	514.5	514.4	514.3	514.2	514.2	514.1	514.0	514.5
162.5°	520.2	520.0	519.8	519.6	519.3	519.2	519.1	519.0	518.9	518.8	519.4
165°	526.8	526.6	526.3	526.0	525.8	525.6	525.5	525.4	525.3	525.2	525.9
167.5°	532.0	531.6	531.3	530.9	530.6	530.4	530.4	530.4	530.4	530.4	531.1
170°	534.8	534.5	534.1	533.8	533.4	533.2	533.2	533.2	533.2	533.2	534.0
172.5°	536.7	536.4	535.9	535.5	535.0	534.8	534.9	535.0	535.1	535.1	535.8
175°	539.2	538.8	538.3	537.9	537.4	537.3	537.3	537.4	537.5	537.6	538.2
177.5°	539.8	539.5	539.1	538.8	538.4	538.3	538.4	538.4	538.5	538.6	539.1
180°	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3	1151.3
2.5°	1146.7	1148.5	1150.3	1151.1	1150.8	1150.4	1150.0	1149.8
5°	1139.1	1140.9	1142.8	1143.5	1143.2	1142.7	1142.3	1141.9
7.5°	1123.1	1124.1	1125.2	1125.3	1124.6	1123.9	1123.2	1122.5
10°	1108.8	1108.9	1109.1	1108.8	1107.7	1106.6	1105.6	1104.6
12.5°	1090.8	1090.7	1090.7	1089.9	1088.8	1087.5	1086.4	1085.1
15°	1059.5	1058.5	1057.5	1056.2	1054.8	1053.3	1051.9	1050.4
17.5°	1022.1	1019.9	1017.7	1015.6	1013.3	1011.2	1009.1	1006.9
20°	996.5	993.7	991.0	988.5	986.0	983.5	981.0	978.5
22.5°	969.0	965.6	962.2	959.4	957.1	954.8	952.4	950.1
25°	924.1	919.7	915.3	912.0	909.7	907.4	905.2	902.9
27.5°	875.0	869.1	863.0	858.2	854.7	851.2	847.7	844.3
30°	840.3	833.1	826.1	820.9	817.6	814.3	810.9	807.6
32.5°	806.0	798.3	790.6	785.0	781.5	778.0	774.5	771.1
35°	755.3	746.4	737.4	731.1	727.4	723.6	719.9	716.1
37.5°	700.7	690.6	680.5	673.2	668.5	663.9	659.3	654.7
40°	662.8	652.0	641.2	633.5	628.7	623.9	619.1	614.4
42.5°	626.4	614.7	602.9	594.9	590.6	586.3	582.0	577.7
45°	573.0	561.2	549.3	540.9	535.9	530.9	526.0	521.0
47.5°	517.6	504.8	492.0	483.3	478.8	474.4	470.0	465.6
50°	480.4	467.4	454.6	445.8	441.0	436.2	431.5	426.7
52.5°	444.3	430.9	417.5	408.7	404.4	400.1	395.8	391.6
55°	390.5	378.4	366.4	358.3	354.2	350.0	345.9	341.7
57.5°	337.7	326.3	315.0	307.5	304.0	300.4	296.9	293.4
60°	304.3	293.2	282.0	274.6	271.1	267.5	264.0	260.5
62.5°	271.3	260.8	250.3	243.2	239.4	235.8	232.1	228.4
65°	224.3	214.1	203.9	197.7	195.5	193.1	190.9	188.6
67.5°	179.4	171.8	164.2	159.2	156.8	154.3	151.9	149.4
70°	151.7	144.4	137.1	132.4	130.1	127.8	125.6	123.2
72.5°	126.7	120.7	114.9	111.4	110.4	109.5	108.5	107.5
75°	94.8	92.7	90.7	89.4	89.0	88.6	88.2	87.7
77.5°	71.5	70.4	69.3	68.5	68.1	67.7	67.2	66.9
80°	57.6	57.0	56.4	55.8	55.4	55.0	54.6	54.1
82.5°	44.1	43.5	42.9	42.5	42.4	42.4	42.3	42.2
85°	25.3	24.9	24.5	24.3	24.3	24.3	24.3	24.3
87.5°	11.4	11.3	11.2	11.1	11.0	10.9	10.8	10.6
90°	10.3	10.7	11.1	11.3	11.5	11.7	11.9	12.0
92.5°	11.4	11.9	12.6	12.8	13.0	13.1	13.2	13.3
95°	13.6	14.3	14.9	15.2	15.2	15.2	15.2	15.2
97.5°	14.4	15.1	15.8	16.1	16.2	16.3	16.4	16.5
100°	14.6	15.3	16.1	16.5	16.6	16.7	16.8	16.9
102.5°	21.9	19.7	17.6	16.5	16.7	16.9	16.9	17.1
105°	56.2	40.5	24.7	16.9	17.1	17.3	17.5	17.7
107.5°	137.7	126.2	114.6	102.9	91.0	79.1	67.2	55.4
110°	174.8	171.8	168.9	161.1	148.4	135.6	122.9	110.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	201.0	201.0	201.1	199.7	197.1	194.4	191.7	189.0
115°	231.8	232.6	233.5	234.2	234.5	234.9	235.2	235.6
117.5°	259.6	260.3	261.0	261.4	261.4	261.5	261.6	261.7
120°	277.9	278.6	279.3	279.6	279.6	279.6	279.6	279.6
122.5°	295.7	296.2	296.7	296.9	297.0	297.1	297.2	297.3
125°	320.8	321.0	321.2	321.4	321.6	321.7	321.9	322.1
127.5°	346.1	346.3	346.6	346.7	346.5	346.3	346.2	346.0
130°	361.2	361.6	361.9	362.0	361.9	361.7	361.5	361.3
132.5°	375.7	376.0	376.4	376.5	376.2	375.9	375.7	375.5
135°	397.5	397.8	398.1	398.1	397.8	397.5	397.3	397.0
137.5°	417.1	417.4	417.9	418.0	417.9	417.7	417.5	417.3
140°	429.4	429.7	430.1	430.2	430.0	429.8	429.6	429.4
142.5°	441.1	441.4	441.7	441.7	441.4	441.2	441.0	440.7
145°	457.4	457.6	457.8	457.9	457.9	457.9	457.9	457.9
147.5°	472.2	472.3	472.5	472.3	472.0	471.5	471.2	470.7
150°	481.1	481.3	481.4	481.4	481.2	480.9	480.6	480.4
152.5°	489.1	489.4	489.7	489.6	489.3	488.8	488.5	488.0
155°	500.1	500.5	501.0	500.9	500.3	499.8	499.3	498.8
157.5°	509.6	510.1	510.7	510.6	509.9	509.3	508.5	507.8
160°	515.1	515.6	516.1	516.1	515.5	514.9	514.2	513.6
162.5°	520.0	520.7	521.2	521.3	520.7	520.1	519.6	519.1
165°	526.6	527.4	528.1	528.1	527.4	526.9	526.3	525.7
167.5°	531.8	532.4	533.2	533.2	532.4	531.8	531.1	530.4
170°	534.7	535.4	536.1	536.1	535.4	534.7	534.0	533.2
172.5°	536.5	537.3	538.0	538.0	537.2	536.4	535.7	534.8
175°	538.9	539.5	540.1	540.1	539.4	538.7	538.0	537.3
177.5°	539.8	540.3	540.9	540.8	540.1	539.4	538.7	538.0
180°	539.2	539.2	539.2	539.2	539.2	539.2	539.2	539.2

(END OF REPORT)