

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: P332780-927

Luminaire Tested: **S124DIW-S795D470U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332780-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S795D470U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3987.6 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Direct

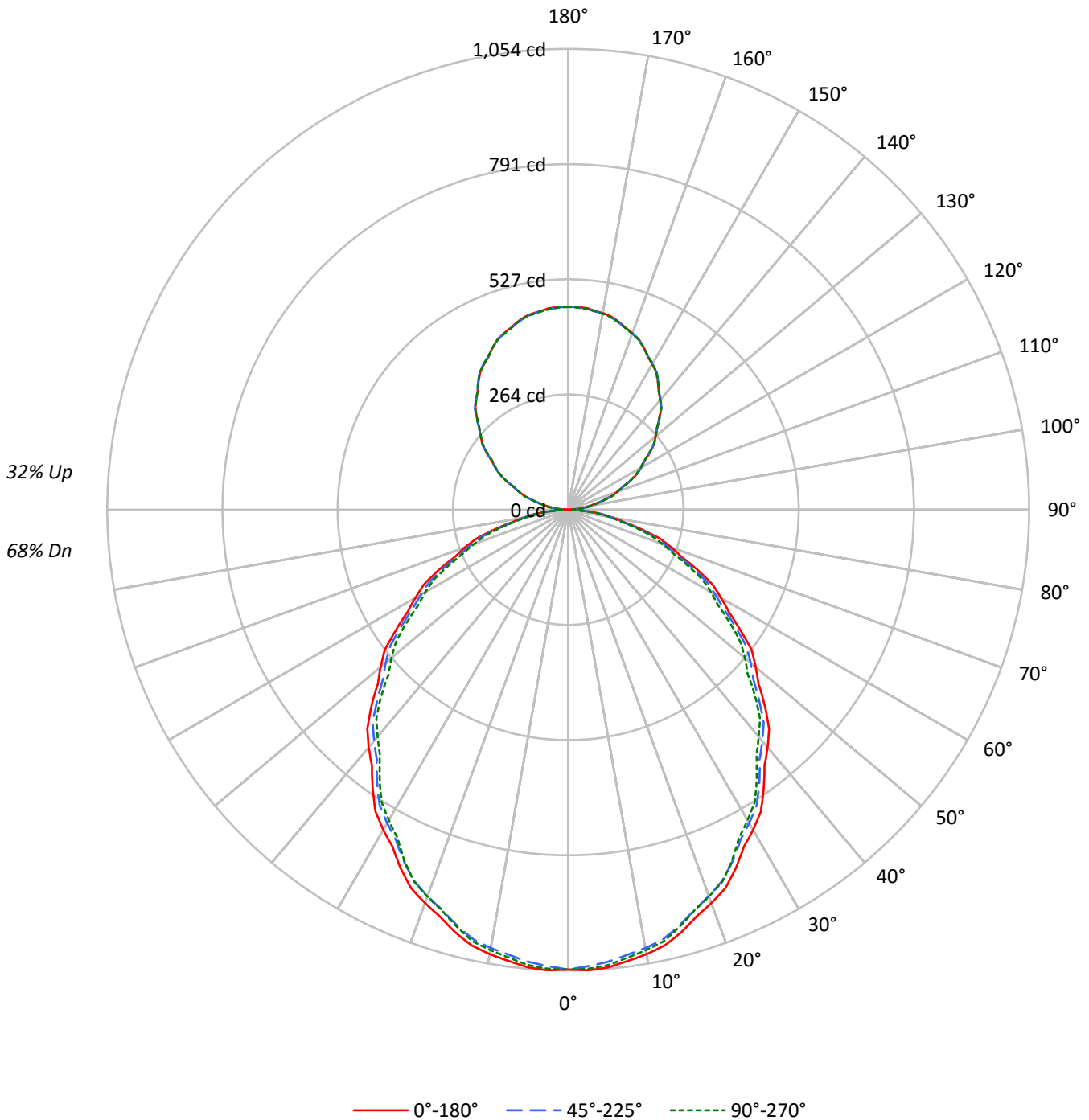
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	68
1	102	97	93	90	96	92	88	85	82	79	77	72	70	69	64	62	61	57
2	93	85	79	73	87	80	75	70	72	67	63	64	60	57	56	54	51	48
3	85	75	67	61	79	71	64	58	63	58	53	56	52	48	50	47	44	40
4	77	66	58	52	73	63	55	50	56	50	46	50	45	42	45	41	38	35
5	71	59	51	44	67	56	48	43	50	44	39	45	40	36	40	36	33	30
6	66	53	45	39	62	50	43	37	46	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	31	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	47	35	28	24	32	26	22	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8490	8490	8490
5°	8515	8413	8474
10°	8461	8344	8385
15°	8359	8226	8247
20°	8223	8079	8086
25°	8068	7911	7888
30°	7879	7713	7643
35°	7681	7508	7407
40°	7477	7273	7140
45°	7263	7042	6907
50°	7027	6836	6625
55°	6773	6570	6356
60°	6516	6273	6082
65°	6229	5989	5746
70°	5908	5611	5391
75°	5415	5153	5022
80°	4816	4621	4505
85°	4215	4057	3974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.0	2.5
10°-20°	279.0	7.0
20°-30°	410.7	10.3
30°-40°	477.4	12.0
40°-50°	477.5	12.0
50°-60°	417.6	10.5
60°-70°	310.2	7.8
70°-80°	176.2	4.4
80°-90°	52.2	1.3
90°-100°	30.6	0.8
100°-110°	90.7	2.3
110°-120°	153.9	3.9
120°-130°	203.0	5.1
130°-140°	227.9	5.7
140°-150°	224.0	5.6
150°-160°	188.4	4.7
160°-170°	125.3	3.1
170°-180°	43.9	1.1
0°-30°	788.7	19.8
0°-40°	1266.2	31.8
0°-60°	2161.3	54.2
0°-90°	2699.9	67.7
90°-120°	275.2	6.9
90°-150°	930.1	23.3
90°-180°	1288.0	32.3
0°-180°	3987.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1052	1052	1052	1052	1052	
5°	1051	1047	1038	1047	1046	100
15°	1000	996	984	989	987	282
25°	906	900	888	889	886	417
35°	779	773	762	756	752	487
45°	636	630	617	608	605	490
55°	481	478	467	457	452	431
65°	326	322	314	305	301	323
75°	174	169	165	162	161	184
85°	46	45	44	44	43	50
90°	1	5	8	10	11	4
95°	22	25	27	28	28	24
105°	84	84	85	87	88	89
115°	156	156	156	155	155	154
125°	228	228	228	227	226	203
135°	294	296	296	295	294	227
145°	357	359	359	359	358	223
155°	409	409	409	410	409	188
165°	445	444	444	446	444	126
175°	463	462	461	464	461	44
180°	464	464	464	464	464	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6
2.5°	1054.3	1053.8	1053.4	1053.0	1052.5	1051.5	1049.8	1048.1	1046.5	1044.9	1046.3
5°	1050.8	1050.0	1049.2	1048.5	1047.7	1046.3	1044.3	1042.2	1040.1	1038.1	1040.1
7.5°	1041.0	1040.2	1039.5	1038.7	1038.0	1036.5	1034.2	1031.9	1029.6	1027.3	1029.0
10°	1032.2	1031.5	1030.7	1030.0	1029.2	1027.6	1025.2	1022.8	1020.3	1017.9	1019.4
12.5°	1020.7	1020.0	1019.2	1018.5	1017.8	1016.1	1013.5	1010.9	1008.4	1005.8	1007.4
15°	1000.2	999.4	998.7	997.9	997.2	995.5	992.6	989.8	987.0	984.2	985.3
17.5°	975.4	974.5	973.5	972.6	971.7	969.9	967.3	964.6	961.9	959.3	960.0
20°	957.2	956.2	955.4	954.4	953.5	951.6	948.8	945.9	943.2	940.4	941.0
22.5°	937.7	936.4	935.2	934.0	932.7	930.7	927.9	925.1	922.3	919.5	920.5
25°	905.8	904.5	903.2	901.9	900.6	898.6	896.0	893.3	890.7	888.1	888.3
27.5°	869.4	868.1	866.7	865.4	864.0	862.1	859.7	857.3	854.8	852.4	851.9
30°	845.2	843.7	842.2	840.7	839.2	837.2	834.7	832.3	829.9	827.4	826.7
32.5°	819.5	818.2	816.8	815.5	814.1	812.1	809.6	807.0	804.5	801.8	801.0
35°	779.4	778.1	776.8	775.5	774.2	772.2	769.6	767.0	764.4	761.8	760.4
37.5°	737.1	735.9	734.7	733.6	732.3	730.3	727.5	724.7	721.9	719.1	717.6
40°	709.5	708.0	706.5	705.0	703.5	701.3	698.5	695.7	692.9	690.1	688.2
42.5°	679.9	678.9	678.0	677.2	676.2	674.2	671.1	668.0	664.9	661.8	659.7
45°	636.2	634.9	633.6	632.2	631.0	628.8	625.8	622.8	619.8	616.8	614.7
47.5°	590.5	589.6	588.7	587.8	586.9	585.1	582.3	579.6	576.8	574.0	571.6
50°	559.5	558.7	558.0	557.2	556.5	554.8	552.2	549.6	546.9	544.3	541.7
52.5°	529.2	528.3	527.4	526.5	525.5	523.7	520.9	518.2	515.4	512.6	510.3
55°	481.2	480.5	480.0	479.4	478.9	477.3	474.7	472.1	469.4	466.8	464.5
57.5°	435.3	434.7	434.0	433.4	432.8	431.1	428.6	426.0	423.4	420.8	418.7
60°	403.6	402.7	401.7	400.8	399.9	398.2	395.8	393.3	390.9	388.5	386.7
62.5°	372.6	371.9	371.1	370.3	369.5	367.8	365.2	362.6	360.0	357.4	355.9
65°	326.1	325.2	324.2	323.3	322.3	320.9	319.1	317.2	315.3	313.5	311.6
67.5°	279.2	278.4	277.5	276.6	275.8	274.5	272.7	270.8	269.1	267.3	265.5
70°	250.3	249.0	247.6	246.3	245.0	243.6	242.1	240.6	239.1	237.7	236.1
72.5°	219.3	217.9	216.7	215.3	214.0	212.8	211.6	210.3	209.1	207.9	206.8
75°	173.6	172.6	171.7	170.8	169.8	168.9	167.9	167.0	166.1	165.2	164.4
77.5°	129.9	129.5	129.1	128.7	128.3	127.7	126.8	126.0	125.2	124.4	124.1
80°	103.6	103.1	102.5	102.0	101.4	100.9	100.5	100.2	99.8	99.4	99.0
82.5°	78.0	77.8	77.5	77.2	77.0	76.8	76.8	76.7	76.6	76.5	76.3
85°	45.5	45.5	45.5	45.5	45.5	45.3	44.9	44.6	44.2	43.8	43.8
87.5°	17.7	17.7	17.8	17.8	17.8	17.8	17.8	17.8	17.7	17.7	17.8
90°	1.1	2.0	2.9	3.7	4.6	5.3	6.0	6.7	7.3	7.9	8.4
92.5°	7.7	8.7	9.7	10.7	11.7	12.4	12.9	13.3	13.8	14.2	14.5
95°	21.5	22.3	23.0	23.7	24.4	25.0	25.6	26.1	26.7	27.3	27.5
97.5°	37.6	38.2	38.7	39.4	39.9	40.6	41.2	41.8	42.5	43.2	43.4
100°	50.2	50.5	50.9	51.2	51.6	52.0	52.8	53.5	54.2	54.9	55.1
102.5°	63.5	63.6	63.7	63.8	64.0	64.4	65.0	65.7	66.3	67.0	67.2
105°	83.7	83.7	83.8	83.9	84.0	84.1	84.4	84.8	85.1	85.4	85.6
107.5°	104.8	104.9	105.0	105.1	105.2	105.3	105.4	105.4	105.4	105.4	105.7
110°	119.1	119.3	119.5	119.6	119.8	119.9	119.8	119.7	119.6	119.5	119.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	134.1	134.1	134.2	134.2	134.3	134.2	134.0	133.9	133.7	133.6	133.6
115°	156.5	156.5	156.5	156.5	156.5	156.5	156.3	156.1	156.0	155.8	155.7
117.5°	177.6	177.7	177.8	177.8	177.8	177.8	177.8	177.6	177.5	177.4	177.1
120°	191.7	192.0	192.3	192.7	193.0	193.0	192.7	192.5	192.3	192.0	191.6
122.5°	206.4	206.4	206.6	206.7	206.8	206.8	206.8	206.6	206.5	206.4	206.1
125°	227.9	227.9	227.9	227.9	227.9	227.9	227.8	227.8	227.7	227.6	227.4
127.5°	247.6	247.8	248.0	248.3	248.5	248.6	248.4	248.3	248.2	248.0	247.9
130°	261.3	261.6	261.8	262.1	262.3	262.4	262.4	262.4	262.4	262.4	262.2
132.5°	275.4	275.6	275.8	275.9	276.1	276.2	276.1	276.0	276.0	275.9	275.8
135°	294.0	294.5	294.9	295.4	295.9	296.1	296.1	296.1	296.1	296.1	296.0
137.5°	314.3	314.5	314.7	314.9	315.1	315.3	315.4	315.6	315.7	315.8	315.6
140°	327.7	327.9	328.0	328.2	328.4	328.4	328.4	328.4	328.4	328.4	328.4
142.5°	340.1	340.2	340.4	340.6	340.7	340.8	340.7	340.6	340.6	340.5	340.5
145°	357.2	357.5	357.8	358.1	358.5	358.6	358.7	358.8	358.9	358.9	358.9
147.5°	374.1	374.5	374.9	375.3	375.7	375.8	375.7	375.7	375.7	375.6	375.5
150°	384.4	384.8	385.1	385.4	385.7	385.9	385.9	385.9	385.9	385.9	385.9
152.5°	394.2	394.4	394.6	394.8	395.0	395.1	395.1	395.2	395.3	395.4	395.5
155°	409.2	409.2	409.2	409.2	409.2	409.2	409.1	409.0	408.9	408.8	409.2
157.5°	421.8	421.7	421.6	421.4	421.3	421.2	421.2	421.2	421.1	421.1	421.4
160°	429.4	429.3	429.2	429.1	429.0	429.0	428.9	428.8	428.7	428.6	428.9
162.5°	436.3	436.0	435.8	435.6	435.4	435.2	435.1	435.1	435.0	434.9	435.4
165°	445.4	445.2	445.0	444.7	444.5	444.3	444.2	444.0	443.9	443.7	444.2
167.5°	452.6	452.3	451.9	451.6	451.2	451.1	451.1	451.1	451.1	451.1	451.6
170°	456.6	456.2	455.8	455.4	455.0	454.9	455.0	455.0	455.1	455.2	455.7
172.5°	459.5	459.1	458.8	458.5	458.1	458.0	458.0	458.0	458.0	458.0	458.6
175°	463.4	463.0	462.6	462.2	461.8	461.6	461.5	461.4	461.4	461.3	461.8
177.5°	464.7	464.4	464.1	463.7	463.4	463.3	463.3	463.3	463.3	463.3	463.7
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6	1051.6
2.5°	1047.8	1049.3	1050.8	1051.5	1051.4	1051.2	1051.1	1050.9
5°	1042.2	1044.3	1046.3	1047.2	1046.8	1046.5	1046.1	1045.7
7.5°	1030.6	1032.3	1033.9	1034.6	1034.4	1034.2	1034.0	1033.7
10°	1020.9	1022.4	1023.9	1024.5	1024.1	1023.7	1023.3	1022.9
12.5°	1009.1	1010.7	1012.3	1012.9	1012.4	1011.9	1011.3	1010.8
15°	986.4	987.5	988.6	989.0	988.4	987.9	987.3	986.7
17.5°	960.7	961.4	962.1	962.3	961.9	961.5	961.2	960.8
20°	941.5	942.1	942.6	942.7	942.3	942.0	941.6	941.2
22.5°	921.5	922.5	923.5	923.7	923.0	922.3	921.6	921.0
25°	888.5	888.7	888.9	888.6	887.9	887.1	886.4	885.6
27.5°	851.5	851.0	850.6	849.9	849.0	848.0	847.1	846.1
30°	825.9	825.2	824.4	823.6	822.7	821.7	820.8	819.9
32.5°	800.0	799.2	798.3	797.3	796.4	795.4	794.5	793.6
35°	759.1	757.8	756.5	755.3	754.4	753.5	752.6	751.6
37.5°	716.2	714.8	713.4	712.1	710.8	709.6	708.4	707.1
40°	686.3	684.5	682.6	681.2	680.2	679.4	678.4	677.5
42.5°	657.4	655.3	653.1	651.7	651.1	650.5	649.8	649.2
45°	612.7	610.6	608.6	607.3	606.7	606.1	605.5	605.0
47.5°	569.3	567.0	564.7	562.8	561.4	560.0	558.6	557.1
50°	539.1	536.5	533.9	532.0	530.8	529.7	528.6	527.5
52.5°	508.0	505.6	503.4	501.5	500.1	498.7	497.3	495.8
55°	462.3	460.1	457.8	456.1	455.0	453.9	452.7	451.6
57.5°	416.5	414.4	412.3	410.7	409.6	408.4	407.4	406.3
60°	385.1	383.4	381.7	380.4	379.5	378.5	377.6	376.7
62.5°	354.3	352.8	351.3	350.1	349.1	348.2	347.3	346.3
65°	309.7	307.8	305.9	304.6	303.6	302.7	301.7	300.8
67.5°	263.7	261.9	260.1	259.0	258.8	258.6	258.3	258.0
70°	234.6	233.1	231.6	230.6	230.0	229.5	228.9	228.4
72.5°	205.6	204.4	203.2	202.3	201.7	201.1	200.6	200.0
75°	163.7	162.9	162.2	161.7	161.5	161.3	161.1	161.0
77.5°	123.9	123.7	123.5	123.1	122.6	122.2	121.7	121.2
80°	98.7	98.3	97.9	97.7	97.4	97.3	97.1	96.9
82.5°	76.0	75.8	75.6	75.4	75.3	75.0	74.9	74.6
85°	43.8	43.8	43.8	43.7	43.6	43.3	43.2	42.9
87.5°	18.0	18.1	18.1	18.2	18.2	18.3	18.3	18.3
90°	8.9	9.3	9.8	10.1	10.3	10.5	10.6	10.8
92.5°	14.8	15.1	15.4	15.5	15.7	15.8	15.8	15.9
95°	27.7	28.0	28.2	28.4	28.4	28.4	28.4	28.4
97.5°	43.7	44.0	44.3	44.4	44.4	44.4	44.4	44.4
100°	55.2	55.4	55.5	55.6	55.6	55.6	55.6	55.6
102.5°	67.4	67.7	67.9	68.0	68.0	68.1	68.2	68.3
105°	86.0	86.2	86.4	86.7	86.9	87.1	87.4	87.6
107.5°	105.9	106.2	106.4	106.5	106.5	106.5	106.4	106.4
110°	119.2	119.1	118.9	118.9	119.1	119.4	119.6	119.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	133.6	133.5	133.5	133.5	133.6	133.6	133.6	133.6
115°	155.7	155.6	155.5	155.4	155.3	155.3	155.2	155.1
117.5°	176.9	176.6	176.3	176.1	175.9	175.8	175.6	175.5
120°	191.2	190.8	190.4	190.4	190.5	190.7	190.8	191.0
122.5°	205.9	205.6	205.3	205.0	204.8	204.5	204.1	203.9
125°	227.3	227.1	227.0	226.8	226.6	226.5	226.3	226.2
127.5°	247.7	247.6	247.4	247.2	247.2	247.0	246.9	246.8
130°	262.1	261.9	261.7	261.5	261.2	260.9	260.5	260.2
132.5°	275.6	275.4	275.3	275.1	275.0	274.9	274.7	274.6
135°	295.8	295.6	295.5	295.3	295.1	294.9	294.6	294.4
137.5°	315.4	315.2	315.0	314.9	315.0	315.0	315.1	315.1
140°	328.3	328.2	328.1	328.0	328.0	327.9	327.8	327.7
142.5°	340.5	340.5	340.5	340.4	340.4	340.4	340.4	340.4
145°	358.8	358.7	358.6	358.5	358.2	358.0	357.7	357.5
147.5°	375.4	375.3	375.3	375.3	375.2	375.1	375.0	374.9
150°	385.9	385.9	385.9	385.9	385.8	385.7	385.6	385.6
152.5°	395.8	395.9	396.2	396.1	395.9	395.7	395.5	395.3
155°	409.5	409.8	410.1	410.1	409.8	409.5	409.2	408.8
157.5°	421.6	421.8	422.1	422.1	421.8	421.5	421.3	421.0
160°	429.1	429.4	429.6	429.5	429.1	428.7	428.3	427.9
162.5°	435.8	436.3	436.7	436.7	436.3	435.9	435.5	435.1
165°	444.7	445.1	445.6	445.7	445.4	445.0	444.7	444.4
167.5°	452.1	452.6	453.0	453.0	452.6	452.1	451.5	451.1
170°	456.1	456.6	457.1	457.0	456.5	455.9	455.3	454.8
172.5°	459.1	459.7	460.2	460.2	459.6	459.1	458.5	458.0
175°	462.4	463.0	463.5	463.5	463.0	462.4	461.8	461.3
177.5°	464.2	464.6	465.1	465.0	464.5	464.1	463.5	463.0
180°	464.1	464.1	464.1	464.1	464.1	464.1	464.1	464.1

(END OF REPORT)