

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: P333026-830

Luminaire Tested: **S124RDIW-S350D1050U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333026-830
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: S124RDIW-S350D1050U830-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4775.2 lumens
Efficiency: N/A
Efficacy: 125.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

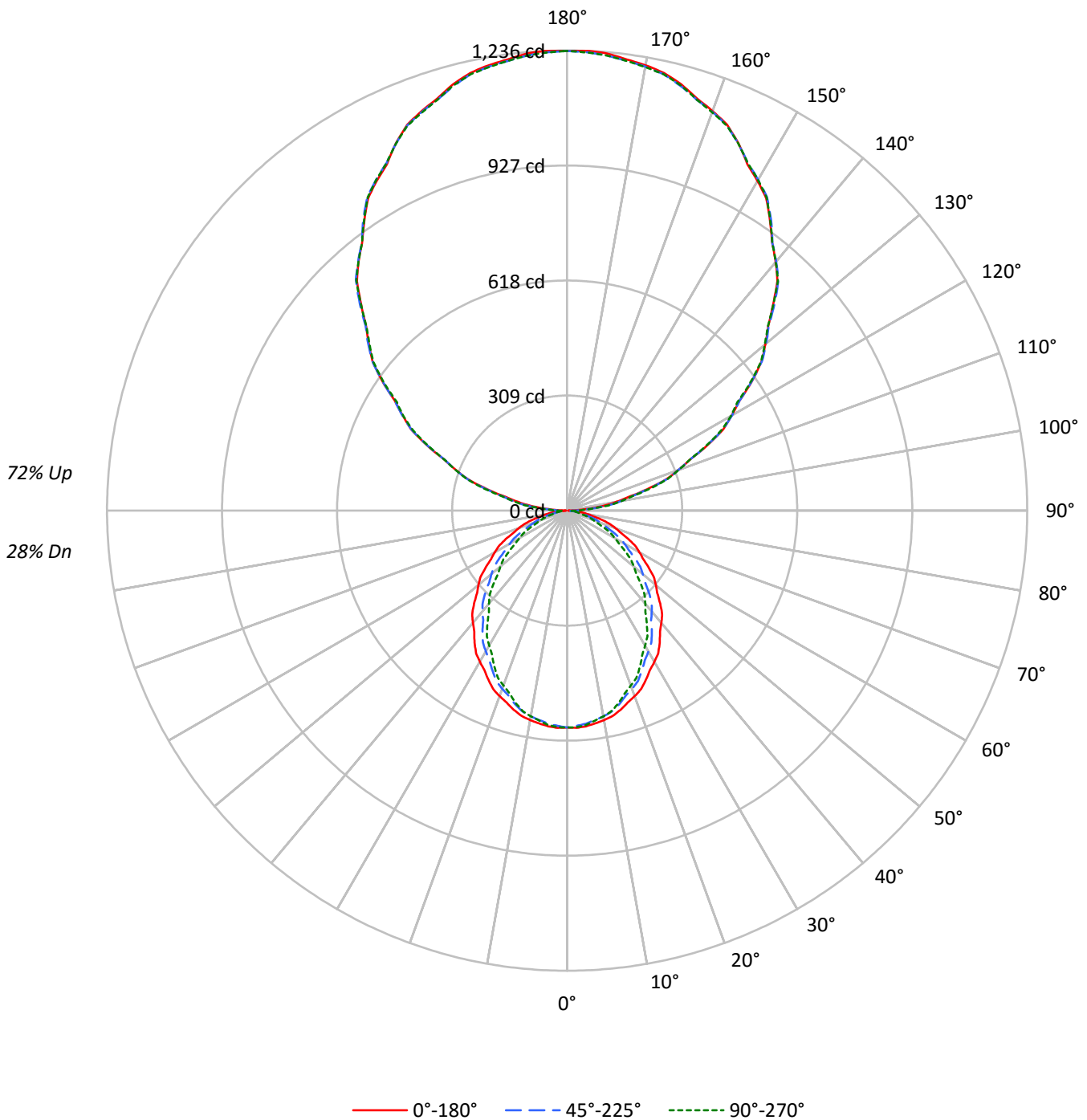
Input Watts (W): 38
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	93	89	85	82	83	80	77	74	63	60	59	47	45	44	32	31	31	24
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	28	27	26	20
3	77	68	61	56	69	62	56	51	49	44	41	36	34	32	25	24	22	17
4	71	61	53	47	63	54	48	43	43	39	35	33	29	27	23	21	19	15
5	65	54	46	40	58	49	42	37	39	34	30	29	26	23	20	18	17	13
6	60	48	40	35	53	44	37	32	35	30	26	26	23	20	19	17	15	12
7	55	43	36	30	49	39	33	28	31	26	23	24	21	18	17	15	13	10
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	16	13	12	9
9	47	36	29	24	42	32	26	22	26	21	18	20	17	14	14	12	11	8
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	1.1
10°-20°	152.6	3.2
20°-30°	220.4	4.6
30°-40°	249.8	5.2
40°-50°	241.2	5.1
50°-60°	200.6	4.2
60°-70°	138.5	2.9
70°-80°	70.2	1.5
80°-90°	21.7	0.5
90°-100°	81.4	1.7
100°-110°	241.2	5.1
110°-120°	409.4	8.6
120°-130°	539.9	11.3
130°-140°	606.3	12.7
140°-150°	595.8	12.5
150°-160°	501.1	10.5
160°-170°	333.4	7.0
170°-180°	116.7	2.4
0°-30°	427.8	9.0
0°-40°	677.6	14.2
0°-60°	1119.4	23.4
0°-90°	1349.9	28.3
90°-120°	732.1	15.3
90°-150°	2474.1	51.8
90°-180°	3425.0	71.7
0°-180°	4775.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	3	13	21	27	29	5
95°	57	66	73	75	75	64
105°	222	224	227	230	233	236
115°	416	416	414	413	412	410
125°	606	606	605	603	602	540
135°	782	787	788	786	783	605
145°	950	954	955	954	951	594
155°	1088	1088	1088	1091	1088	501
165°	1185	1182	1180	1185	1182	334
175°	1233	1228	1227	1233	1227	117
180°	1235	1235	1235	1235	1235	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.8	8.6	8.5	8.3	8.1	8.2	8.4	8.7	9.0	9.2	9.3
90°	2.8	5.2	7.5	9.9	12.2	14.2	15.9	17.6	19.3	21.0	22.2
92.5°	20.5	23.1	25.8	28.5	31.1	33.1	34.2	35.4	36.7	37.8	38.5
95°	57.3	59.2	61.1	63.1	64.9	66.6	68.1	69.6	71.1	72.6	73.2
97.5°	100.1	101.6	103.1	104.6	106.2	107.8	109.5	111.3	113.0	114.8	115.6
100°	133.7	134.5	135.3	136.2	137.0	138.5	140.3	142.2	144.2	146.1	146.5
102.5°	168.8	169.2	169.5	169.8	170.1	171.2	173.0	174.7	176.4	178.1	178.8
105°	222.4	222.7	222.9	223.1	223.3	223.9	224.7	225.6	226.4	227.2	227.9
107.5°	278.8	279.1	279.3	279.6	279.8	280.0	280.1	280.3	280.4	280.5	281.2
110°	317.0	317.4	317.8	318.3	318.7	318.8	318.8	318.4	318.2	317.9	317.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	356.8	356.8	356.9	356.9	357.0	356.9	356.6	356.2	355.8	355.4	355.3
115°	416.3	416.3	416.3	416.3	416.3	416.1	415.7	415.3	414.8	414.4	414.2
117.5°	472.5	472.6	472.8	473.0	473.2	473.1	472.8	472.5	472.2	471.8	471.2
120°	509.9	510.8	511.6	512.5	513.3	513.4	512.7	512.1	511.5	510.9	509.8
122.5°	548.8	549.2	549.5	549.9	550.2	550.3	549.9	549.6	549.3	549.0	548.3
125°	606.3	606.3	606.3	606.3	606.3	606.2	606.0	605.8	605.6	605.4	604.9
127.5°	658.5	659.1	659.7	660.3	661.0	661.2	660.8	660.4	660.2	659.8	659.4
130°	695.1	695.8	696.4	697.0	697.7	698.0	698.0	698.0	698.0	698.0	697.6
132.5°	732.5	733.0	733.5	734.0	734.4	734.5	734.4	734.2	734.1	733.9	733.5
135°	782.0	783.3	784.6	785.8	787.1	787.8	787.8	787.8	787.8	787.8	787.3
137.5°	835.8	836.4	837.1	837.6	838.2	838.7	839.1	839.4	839.7	840.1	839.5
140°	871.8	872.2	872.6	873.1	873.5	873.6	873.6	873.6	873.6	873.6	873.5
142.5°	904.7	905.0	905.5	905.9	906.3	906.4	906.3	906.1	906.0	905.8	905.7
145°	950.1	950.9	951.8	952.6	953.5	953.9	954.2	954.4	954.6	954.8	954.6
147.5°	995.1	996.2	997.2	998.2	999.2	999.7	999.5	999.3	999.1	998.9	998.8
150°	1022.7	1023.5	1024.4	1025.2	1026.1	1026.4	1026.4	1026.4	1026.4	1026.4	1026.4
152.5°	1048.6	1049.1	1049.6	1050.1	1050.7	1050.9	1051.1	1051.3	1051.5	1051.7	1052.2
155°	1088.5	1088.5	1088.5	1088.5	1088.5	1088.4	1088.2	1088.0	1087.8	1087.6	1088.4
157.5°	1122.1	1121.7	1121.3	1121.0	1120.6	1120.4	1120.3	1120.3	1120.2	1120.2	1120.9
160°	1142.0	1141.8	1141.5	1141.3	1141.1	1140.9	1140.7	1140.5	1140.3	1140.1	1140.7
162.5°	1160.3	1159.8	1159.2	1158.7	1158.1	1157.7	1157.5	1157.3	1157.1	1156.9	1158.0
165°	1185.0	1184.3	1183.6	1183.1	1182.4	1181.9	1181.5	1181.0	1180.6	1180.2	1181.5
167.5°	1203.8	1203.0	1202.1	1201.2	1200.3	1199.9	1200.0	1200.0	1200.0	1200.0	1201.3
170°	1214.6	1213.5	1212.4	1211.4	1210.3	1209.8	1210.1	1210.3	1210.5	1210.7	1212.0
172.5°	1222.2	1221.3	1220.4	1219.6	1218.6	1218.2	1218.2	1218.3	1218.3	1218.3	1219.8
175°	1232.7	1231.6	1230.6	1229.5	1228.4	1227.9	1227.6	1227.4	1227.2	1227.0	1228.4
177.5°	1236.1	1235.3	1234.4	1233.6	1232.8	1232.3	1232.3	1232.3	1232.3	1232.3	1233.5
180°	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	9.5	9.7	9.9	10.1	10.3	10.4	10.6	10.7
90°	23.6	24.8	26.1	27.0	27.3	27.8	28.2	28.7
92.5°	39.3	40.1	40.9	41.4	41.7	41.8	42.1	42.4
95°	73.8	74.5	75.1	75.4	75.4	75.4	75.4	75.4
97.5°	116.3	117.1	117.8	118.2	118.2	118.2	118.2	118.2
100°	146.9	147.3	147.8	148.0	148.0	148.0	148.0	148.0
102.5°	179.4	179.9	180.6	181.0	181.1	181.3	181.4	181.6
105°	228.6	229.1	229.8	230.5	231.1	231.7	232.3	233.0
107.5°	281.7	282.3	283.0	283.1	283.1	283.1	283.0	283.0
110°	317.1	316.7	316.2	316.4	317.0	317.6	318.3	319.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	355.2	355.2	355.1	355.1	355.2	355.3	355.4	355.6
115°	414.0	413.8	413.6	413.3	413.1	412.9	412.7	412.5
117.5°	470.4	469.7	469.0	468.4	468.0	467.6	467.1	466.7
120°	508.7	507.7	506.6	506.2	506.7	507.1	507.6	507.9
122.5°	547.6	546.9	546.1	545.4	544.6	543.8	543.1	542.3
125°	604.5	604.1	603.7	603.2	602.9	602.4	602.0	601.5
127.5°	658.9	658.6	658.1	657.7	657.3	657.0	656.7	656.4
130°	697.1	696.7	696.3	695.7	694.8	694.0	693.1	692.3
132.5°	733.0	732.6	732.2	731.8	731.5	731.1	730.8	730.5
135°	786.9	786.5	786.1	785.5	784.9	784.2	783.6	783.0
137.5°	839.0	838.4	837.8	837.6	837.7	837.9	838.0	838.1
140°	873.3	873.1	872.8	872.6	872.4	872.2	871.9	871.8
142.5°	905.7	905.6	905.6	905.5	905.5	905.5	905.4	905.4
145°	954.4	954.2	953.9	953.6	952.9	952.3	951.7	951.0
147.5°	998.6	998.4	998.2	998.1	997.9	997.7	997.4	997.2
150°	1026.4	1026.4	1026.4	1026.3	1026.1	1026.0	1025.7	1025.5
152.5°	1052.6	1053.2	1053.7	1053.7	1053.1	1052.5	1052.0	1051.5
155°	1089.3	1090.1	1091.0	1091.0	1090.1	1089.3	1088.4	1087.6
157.5°	1121.5	1122.1	1122.8	1122.8	1122.0	1121.2	1120.6	1119.8
160°	1141.3	1142.0	1142.6	1142.4	1141.3	1140.3	1139.3	1138.1
162.5°	1159.1	1160.3	1161.5	1161.5	1160.5	1159.4	1158.3	1157.3
165°	1182.7	1184.0	1185.2	1185.4	1184.6	1183.7	1182.9	1182.0
167.5°	1202.6	1203.8	1205.1	1205.1	1203.8	1202.5	1201.2	1199.9
170°	1213.2	1214.6	1215.8	1215.7	1214.3	1212.8	1211.3	1209.8
172.5°	1221.3	1222.7	1224.2	1224.1	1222.7	1221.2	1219.7	1218.1
175°	1229.9	1231.4	1232.9	1232.9	1231.4	1229.9	1228.4	1227.0
177.5°	1234.7	1235.9	1237.1	1237.0	1235.6	1234.3	1232.9	1231.5
180°	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6	1234.6

(END OF REPORT)