

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: P332749-927

Luminaire Tested: **S124DIW-S575D470U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332749-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S575D470U927-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 470 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3460.4 lumens  
Efficiency: N/A  
Efficacy: 114.6 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: General Diffuse

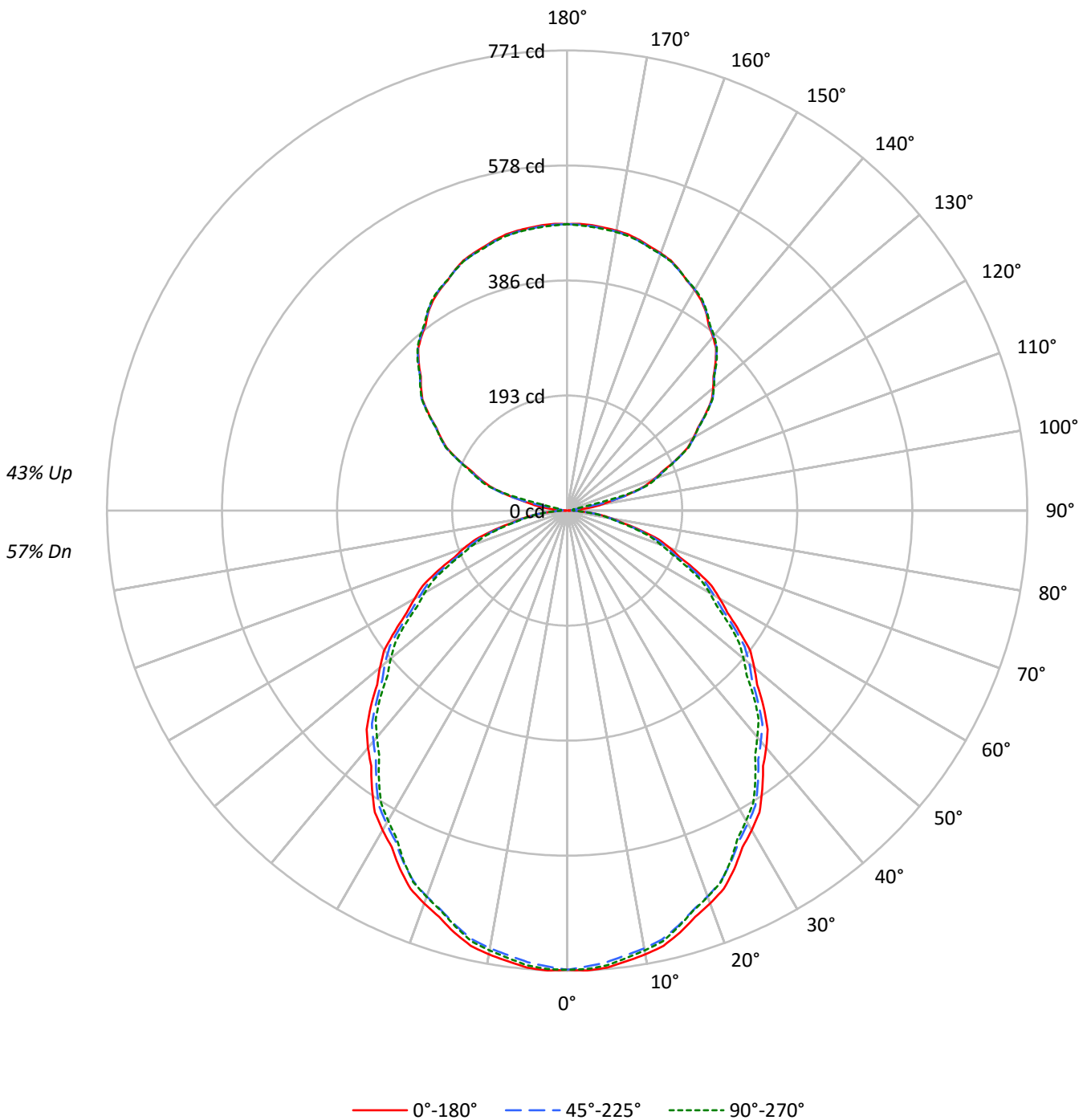
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57
1	99	95	91	87	92	89	85	82	76	74	72	65	64	62	55	54	53	48
2	90	83	77	71	84	77	72	67	67	63	59	57	54	52	49	46	44	40
3	83	73	65	59	76	68	62	56	59	54	50	51	47	44	43	40	38	34
4	76	65	56	50	70	60	53	48	53	47	43	45	41	38	39	35	33	29
5	69	58	49	43	64	54	47	41	47	41	37	41	36	33	35	31	28	25
6	64	52	43	38	59	48	41	36	42	37	32	37	32	29	32	28	25	22
7	59	47	39	33	55	44	37	31	39	33	28	33	29	25	29	25	22	20
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16	14

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

	0°	45°	90°
0°	6211	6211	6211
5°	6229	6155	6199
10°	6190	6105	6135
15°	6115	6018	6033
20°	6016	5910	5916
25°	5903	5787	5770
30°	5764	5643	5591
35°	5619	5492	5419
40°	5469	5321	5223
45°	5313	5151	5053
50°	5141	5001	4847
55°	4954	4807	4650
60°	4766	4589	4448
65°	4556	4380	4204
70°	4322	4102	3944
75°	3961	3768	3671
80°	3524	3380	3296
85°	3084	2973	2908



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.5	2.1
10°-20°	204.1	5.9
20°-30°	300.5	8.7
30°-40°	349.3	10.1
40°-50°	349.3	10.1
50°-60°	305.5	8.8
60°-70°	226.9	6.6
70°-80°	128.9	3.7
80°-90°	38.6	1.1
90°-100°	16.4	0.5
100°-110°	104.7	3.0
110°-120°	200.2	5.8
120°-130°	254.2	7.3
130°-140°	272.0	7.9
140°-150°	254.3	7.3
150°-160°	205.1	5.9
160°-170°	132.3	3.8
170°-180°	45.6	1.3
0°-30°	577.0	16.7
0°-40°	926.3	26.8
0°-60°	1581.2	45.7
0°-90°	1975.6	57.1
90°-120°	321.3	9.3
90°-150°	1101.8	31.8
90°-180°	1485.0	42.9
0°-180°	3460.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	769	769	769	769	769	
5°	769	766	760	766	765	73
15°	732	729	720	723	722	206
25°	663	658	650	650	648	305
35°	570	566	557	553	550	356
45°	465	461	451	445	443	359
55°	352	350	342	334	330	315
65°	238	235	229	223	220	236
75°	127	124	121	118	118	135
85°	33	33	32	32	31	37
90°	1	5	8	10	11	3
95°	20	8	8	10	10	25
105°	108	110	112	114	102	113
115°	202	203	202	203	203	199
125°	284	285	284	285	286	253
135°	352	352	353	354	354	271
145°	406	407	407	407	408	253
155°	445	445	444	445	444	205
165°	469	468	468	470	467	133
175°	480	478	478	481	477	46
180°	480	480	480	480	480	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	769.3	769.3	769.3	769.3	769.3	769.3	769.3	769.3	769.3	769.3	769.3
2.5°	771.3	771.0	770.6	770.3	770.0	769.2	768.0	766.8	765.6	764.4	765.5
5°	768.7	768.2	767.6	767.1	766.5	765.5	764.0	762.5	761.0	759.5	761.0
7.5°	761.5	761.0	760.5	759.9	759.4	758.3	756.6	754.9	753.2	751.5	752.8
10°	755.1	754.6	754.1	753.5	753.0	751.8	750.0	748.2	746.5	744.7	745.8
12.5°	746.8	746.2	745.7	745.1	744.6	743.4	741.5	739.6	737.7	735.8	737.0
15°	731.7	731.2	730.6	730.1	729.5	728.3	726.2	724.1	722.1	720.0	720.8
17.5°	713.6	712.9	712.3	711.5	710.8	709.6	707.6	705.7	703.7	701.8	702.3
20°	700.3	699.6	698.9	698.2	697.5	696.2	694.1	692.1	690.0	687.9	688.3
22.5°	686.0	685.1	684.2	683.3	682.4	680.9	678.8	676.8	674.7	672.6	673.4
25°	662.7	661.7	660.8	659.8	658.9	657.4	655.5	653.6	651.6	649.7	649.9
27.5°	636.0	635.1	634.1	633.1	632.1	630.7	628.9	627.2	625.3	623.6	623.3
30°	618.3	617.2	616.1	615.0	613.9	612.4	610.7	608.9	607.1	605.4	604.8
32.5°	599.5	598.6	597.5	596.6	595.6	594.1	592.3	590.4	588.5	586.6	586.0
35°	570.2	569.3	568.3	567.4	566.4	564.9	563.0	561.1	559.2	557.3	556.3
37.5°	539.2	538.4	537.5	536.6	535.8	534.3	532.3	530.2	528.1	526.1	525.1
40°	519.0	517.9	516.8	515.8	514.7	513.1	511.0	509.0	506.9	504.9	503.5
42.5°	497.3	496.7	496.1	495.4	494.7	493.2	491.0	488.7	486.4	484.2	482.6
45°	465.4	464.5	463.5	462.6	461.6	460.0	457.8	455.6	453.4	451.2	449.7
47.5°	432.0	431.3	430.7	430.0	429.4	428.0	426.0	424.0	421.9	419.9	418.2
50°	409.3	408.8	408.2	407.7	407.1	405.9	404.0	402.0	400.1	398.2	396.3
52.5°	387.1	386.5	385.8	385.2	384.5	383.2	381.1	379.1	377.1	375.0	373.4
55°	352.0	351.6	351.2	350.8	350.4	349.2	347.3	345.3	343.4	341.5	339.8
57.5°	318.5	318.0	317.5	317.0	316.6	315.4	313.5	311.6	309.7	307.8	306.3
60°	295.2	294.6	293.9	293.2	292.6	291.3	289.5	287.7	286.0	284.2	283.0
62.5°	272.6	272.0	271.4	270.8	270.3	269.0	267.2	265.3	263.4	261.5	260.4
65°	238.5	237.9	237.2	236.5	235.8	234.8	233.5	232.0	230.7	229.3	227.9
67.5°	204.3	203.7	203.0	202.4	201.8	200.8	199.5	198.2	196.9	195.5	194.2
70°	183.1	182.1	181.2	180.2	179.3	178.2	177.1	176.0	174.9	173.8	172.8
72.5°	160.4	159.5	158.5	157.5	156.5	155.7	154.8	153.9	153.0	152.1	151.2
75°	127.0	126.3	125.6	124.9	124.2	123.6	122.9	122.2	121.5	120.8	120.3
77.5°	95.1	94.7	94.4	94.2	93.9	93.4	92.8	92.2	91.6	91.0	90.8
80°	75.8	75.4	75.0	74.6	74.1	73.8	73.6	73.3	73.0	72.7	72.5
82.5°	57.1	56.9	56.7	56.5	56.3	56.2	56.2	56.1	56.0	56.0	55.8
85°	33.3	33.3	33.3	33.3	33.3	33.1	32.9	32.6	32.3	32.1	32.1
87.5°	13.1	13.1	13.2	13.2	13.3	13.3	13.4	13.4	13.4	13.4	13.5
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°	4.5	4.6	4.6	4.7	4.8	5.1	5.7	6.3	7.0	7.6	8.1
95°	19.7	17.0	14.3	11.6	8.9	7.6	7.7	7.8	7.8	7.9	8.4
97.5°	41.9	43.6	45.3	47.0	48.7	45.1	36.2	27.3	18.4	9.5	9.5
100°	58.9	60.3	61.8	63.2	64.6	59.8	48.8	37.8	26.8	15.8	14.4
102.5°	77.9	78.9	79.9	81.0	82.1	81.8	80.4	79.0	77.6	76.1	61.5
105°	108.1	108.5	109.0	109.5	110.0	110.4	110.8	111.2	111.6	112.0	112.7
107.5°	136.2	136.4	136.7	136.9	137.1	137.5	138.0	138.6	139.1	139.7	140.0
110°	155.1	155.3	155.6	155.8	156.1	156.4	156.9	157.4	157.9	158.4	158.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.5	173.9	174.4	174.8	175.2	175.5	175.8	175.9	176.2	176.4	176.4
115°	201.8	202.0	202.2	202.5	202.7	202.8	202.7	202.6	202.6	202.5	202.6
117.5°	227.3	227.6	227.9	228.2	228.5	228.8	228.9	229.1	229.3	229.5	229.4
120°	244.5	244.8	245.1	245.4	245.7	245.9	245.8	245.7	245.7	245.6	245.7
122.5°	260.5	260.8	260.9	261.2	261.3	261.5	261.6	261.7	261.8	262.0	262.1
125°	283.6	283.9	284.2	284.6	284.9	284.9	284.8	284.6	284.5	284.3	284.6
127.5°	305.5	305.5	305.6	305.7	305.8	306.0	306.3	306.7	307.1	307.4	307.4
130°	319.5	319.6	319.7	319.8	319.9	320.0	320.3	320.5	320.8	321.0	321.1
132.5°	332.5	332.6	332.7	332.9	333.0	333.3	333.6	333.8	334.1	334.5	334.5
135°	351.8	351.7	351.6	351.6	351.5	351.6	352.0	352.3	352.6	352.9	353.1
137.5°	369.0	369.0	369.1	369.1	369.2	369.3	369.6	370.0	370.3	370.7	370.9
140°	380.2	380.3	380.5	380.6	380.8	381.0	381.1	381.4	381.5	381.7	381.9
142.5°	390.2	390.5	390.9	391.1	391.4	391.6	391.7	391.8	391.9	392.0	392.1
145°	405.7	405.9	406.2	406.4	406.6	406.8	406.8	406.8	406.8	406.8	406.9
147.5°	418.0	418.4	418.8	419.3	419.8	419.9	419.9	419.8	419.7	419.6	419.7
150°	426.9	427.2	427.5	427.9	428.2	428.3	428.2	428.1	428.0	427.9	427.9
152.5°	434.4	434.6	434.8	435.1	435.4	435.4	435.3	435.1	435.0	434.8	435.0
155°	444.8	444.9	445.0	445.0	445.1	445.0	444.8	444.6	444.3	444.1	444.4
157.5°	453.7	453.6	453.5	453.5	453.4	453.3	453.0	452.7	452.5	452.3	452.7
160°	458.8	458.6	458.4	458.1	457.9	457.7	457.6	457.6	457.5	457.4	457.9
162.5°	463.4	463.1	462.8	462.5	462.2	462.0	461.9	461.8	461.8	461.7	462.2
165°	469.2	468.8	468.4	468.0	467.6	467.5	467.5	467.5	467.5	467.5	468.1
167.5°	473.8	473.4	473.0	472.6	472.1	471.9	471.9	471.8	471.8	471.7	472.5
170°	476.4	475.9	475.5	475.0	474.5	474.3	474.4	474.4	474.5	474.6	475.2
172.5°	478.2	477.7	477.2	476.7	476.3	476.0	476.1	476.2	476.3	476.3	477.0
175°	480.0	479.5	479.0	478.6	478.1	477.9	478.0	478.1	478.2	478.2	479.0
177.5°	480.9	480.5	480.0	479.5	479.1	479.0	479.0	479.2	479.3	479.4	479.9
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	769.3	769.3	769.3	769.3	769.3	769.3	769.3	769.3
2.5°	766.6	767.7	768.8	769.3	769.1	769.1	769.0	768.8
5°	762.5	764.0	765.5	766.1	765.8	765.6	765.2	765.0
7.5°	754.0	755.2	756.4	756.9	756.8	756.6	756.5	756.2
10°	746.9	748.0	749.1	749.5	749.2	748.9	748.6	748.4
12.5°	738.2	739.4	740.6	741.0	740.6	740.2	739.9	739.5
15°	721.7	722.5	723.3	723.5	723.1	722.7	722.2	721.8
17.5°	702.8	703.3	703.9	703.9	703.7	703.4	703.1	702.9
20°	688.8	689.2	689.6	689.7	689.4	689.1	688.9	688.6
22.5°	674.1	674.9	675.7	675.7	675.3	674.8	674.3	673.8
25°	650.0	650.1	650.3	650.1	649.5	649.0	648.4	647.8
27.5°	623.0	622.6	622.3	621.8	621.1	620.4	619.7	619.0
30°	604.3	603.7	603.2	602.5	601.8	601.2	600.5	599.8
32.5°	585.3	584.6	584.0	583.3	582.7	581.9	581.2	580.6
35°	555.3	554.4	553.4	552.6	551.9	551.2	550.6	549.9
37.5°	524.0	522.9	521.9	520.9	520.1	519.1	518.2	517.3
40°	502.2	500.7	499.4	498.4	497.6	497.0	496.3	495.6
42.5°	481.0	479.3	477.8	476.7	476.3	475.9	475.4	474.9
45°	448.2	446.7	445.2	444.3	443.9	443.5	443.0	442.6
47.5°	416.5	414.8	413.1	411.8	410.7	409.6	408.6	407.6
50°	394.3	392.4	390.5	389.2	388.3	387.5	386.7	385.9
52.5°	371.6	369.9	368.3	366.9	365.8	364.8	363.8	362.7
55°	338.3	336.6	334.9	333.7	332.9	332.1	331.2	330.4
57.5°	304.8	303.2	301.6	300.4	299.6	298.8	298.0	297.2
60°	281.7	280.5	279.2	278.3	277.6	276.9	276.2	275.5
62.5°	259.3	258.1	257.0	256.1	255.4	254.8	254.1	253.3
65°	226.6	225.2	223.9	222.8	222.1	221.4	220.8	220.1
67.5°	192.9	191.6	190.3	189.5	189.3	189.2	188.9	188.8
70°	171.7	170.6	169.4	168.7	168.3	167.9	167.5	167.1
72.5°	150.4	149.5	148.6	148.0	147.6	147.2	146.8	146.3
75°	119.7	119.1	118.7	118.3	118.1	118.0	117.9	117.7
77.5°	90.6	90.5	90.3	90.1	89.7	89.4	89.0	88.6
80°	72.2	71.9	71.6	71.5	71.3	71.1	71.1	70.9
82.5°	55.6	55.5	55.3	55.1	55.1	54.9	54.7	54.6
85°	32.1	32.1	32.1	32.0	31.8	31.7	31.6	31.4
87.5°	13.6	13.7	13.8	13.9	13.9	13.9	13.9	14.0
90°	8.9	9.3	9.8	10.1	10.3	10.5	10.6	10.8
92.5°	8.6	9.0	9.5	9.7	9.8	9.8	9.9	9.9
95°	8.9	9.3	9.8	10.1	10.1	10.2	10.3	10.4
97.5°	9.6	9.6	9.7	9.7	9.8	9.9	10.0	10.1
100°	13.1	11.7	10.4	9.7	9.8	9.9	10.0	10.1
102.5°	46.8	32.2	17.6	10.3	10.3	10.3	10.3	10.4
105°	113.4	114.2	114.9	113.8	110.9	108.1	105.2	102.3
107.5°	140.4	140.7	141.1	141.4	141.7	142.0	142.3	142.6
110°	158.7	158.8	159.0	159.1	159.4	159.6	159.9	160.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	176.3	176.3	176.3	176.4	176.7	177.1	177.4	177.6
115°	202.8	203.0	203.1	203.2	203.2	203.2	203.2	203.2
117.5°	229.4	229.4	229.3	229.3	229.3	229.3	229.3	229.2
120°	245.9	246.1	246.2	246.2	246.1	245.9	245.7	245.6
122.5°	262.1	262.2	262.3	262.3	262.1	262.0	261.8	261.7
125°	284.8	285.0	285.3	285.4	285.5	285.6	285.7	285.7
127.5°	307.4	307.3	307.3	307.2	307.1	307.0	307.0	307.0
130°	321.2	321.2	321.3	321.3	321.3	321.3	321.3	321.3
132.5°	334.6	334.7	334.8	334.8	334.7	334.7	334.6	334.5
135°	353.2	353.4	353.6	353.7	353.9	354.0	354.2	354.3
137.5°	371.1	371.2	371.5	371.5	371.5	371.4	371.4	371.3
140°	382.1	382.4	382.6	382.8	382.9	382.9	383.0	383.1
142.5°	392.3	392.5	392.7	392.8	392.8	392.8	392.8	392.8
145°	406.9	407.0	407.1	407.2	407.3	407.5	407.7	407.8
147.5°	419.8	419.8	419.9	419.9	420.0	420.1	420.2	420.3
150°	427.9	427.9	427.9	428.0	428.1	428.2	428.3	428.3
152.5°	435.1	435.2	435.4	435.4	435.4	435.3	435.2	435.2
155°	444.7	445.0	445.4	445.4	445.2	445.0	444.7	444.5
157.5°	453.0	453.4	453.8	453.8	453.4	453.0	452.7	452.3
160°	458.4	458.8	459.3	459.3	458.8	458.4	457.9	457.4
162.5°	462.6	463.1	463.6	463.6	463.0	462.5	461.9	461.4
165°	468.7	469.4	470.0	469.9	469.2	468.5	467.8	467.1
167.5°	473.2	473.9	474.6	474.5	473.7	472.9	472.1	471.3
170°	475.9	476.5	477.2	477.1	476.3	475.5	474.7	473.9
172.5°	477.6	478.2	478.9	478.8	477.9	477.1	476.2	475.3
175°	479.7	480.4	481.1	480.9	480.0	479.0	478.1	477.1
177.5°	480.5	480.9	481.5	481.3	480.6	479.8	479.0	478.3
180°	480.0	480.0	480.0	480.0	480.0	480.0	480.0	480.0

(END OF REPORT)