

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: P332748-935

Luminaire Tested: **S124DIW-S575D470U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332748-935  
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-S575D470U935-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP 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: 3440.6 lumens  
Efficiency: N/A  
Efficacy: 113.9 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

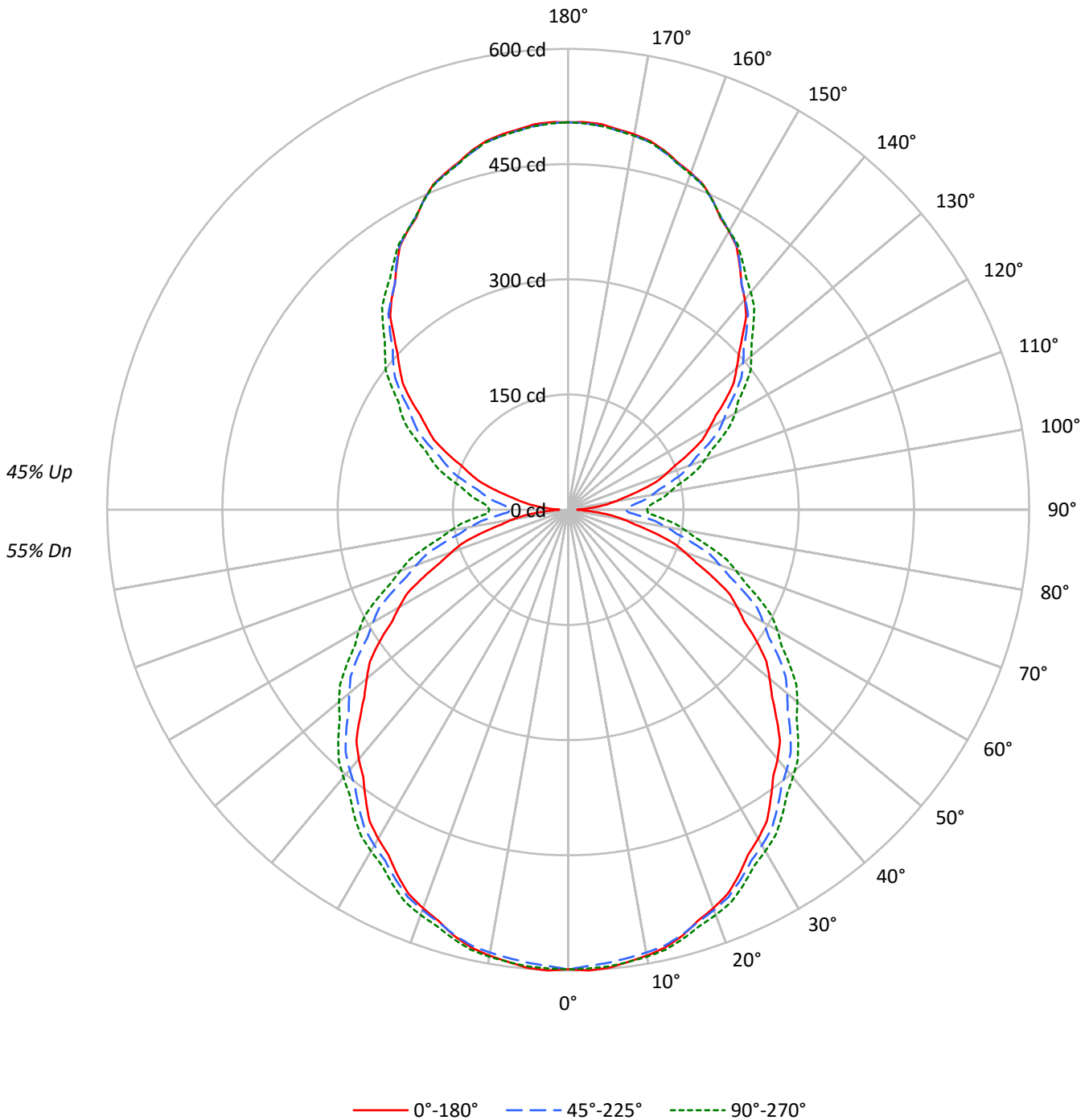
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	98	93	89	85	90	86	82	79	74	71	68	62	60	58	52	50	49	44
2	89	80	74	68	82	75	69	64	64	60	56	54	51	48	45	42	40	36
3	80	70	63	56	74	65	58	53	56	51	46	47	43	40	39	36	34	30
4	73	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	25
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	31	28	25	22
6	62	49	41	35	57	46	38	33	40	34	29	34	29	25	28	25	22	19
7	57	44	36	30	53	42	34	29	36	30	26	31	26	22	26	22	19	17
8	53	40	32	27	49	38	30	25	33	27	23	28	23	20	24	20	17	15
9	49	37	29	24	46	34	27	23	30	24	20	26	21	18	22	18	15	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

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

	0°	45°	90°
0°	4830	4830	4830
5°	4845	4721	4734
10°	4816	4644	4639
15°	4772	4554	4529
20°	4707	4455	4422
25°	4634	4345	4302
30°	4555	4235	4181
35°	4464	4122	4074
40°	4393	4015	3964
45°	4286	3916	3867
50°	4195	3803	3767
55°	4102	3695	3648
60°	3957	3557	3541
65°	3798	3411	3409
70°	3603	3243	3253
75°	3334	3060	3114
80°	3035	2882	2977
85°	2656	2725	2896



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.7	1.6
10°-20°	162.3	4.7
20°-30°	245.5	7.1
30°-40°	297.0	8.6
40°-50°	314.0	9.1
50°-60°	295.5	8.6
60°-70°	245.2	7.1
70°-80°	172.2	5.0
80°-90°	98.9	2.9
90°-100°	91.1	2.6
100°-110°	141.4	4.1
110°-120°	196.0	5.7
120°-130°	236.8	6.9
130°-140°	254.7	7.4
140°-150°	244.9	7.1
150°-160°	204.8	6.0
160°-170°	136.2	4.0
170°-180°	47.7	1.4
0°-30°	464.5	13.5
0°-40°	761.4	22.1
0°-60°	1370.9	39.8
0°-90°	1887.1	54.8
90°-120°	428.4	12.5
90°-150°	1164.9	33.9
90°-180°	1554.0	45.2
0°-180°	3440.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	598	598	598	598	598	
5°	599	597	592	597	597	57
15°	574	575	573	578	578	162
25°	525	529	531	538	539	242
35°	460	468	474	483	486	288
45°	383	396	409	420	423	296
55°	300	314	334	347	352	267
65°	208	229	252	268	274	206
75°	115	140	168	186	193	123
85°	36	64	94	113	121	38
90°	12	43	75	96	103	9
95°	32	58	88	106	113	33
105°	97	111	137	154	162	103
115°	174	181	201	215	220	172
125°	250	251	266	278	281	223
135°	321	323	328	337	341	248
145°	389	390	390	394	395	243
155°	445	445	444	446	444	205
165°	484	483	482	484	483	136
175°	504	502	501	504	501	48
180°	504	504	504	504	504	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	600.5	600.1	599.8	599.3	599.0	598.4	597.4	596.5	595.5	594.5	595.4
5°	599.0	598.6	598.1	597.6	597.2	596.4	595.4	594.3	593.3	592.3	593.5
7.5°	593.9	593.6	593.3	593.1	592.8	592.3	591.4	590.6	589.6	588.8	590.1
10°	589.6	589.4	589.3	589.2	589.0	588.6	587.8	587.0	586.3	585.6	586.9
12.5°	583.7	583.7	583.7	583.6	583.6	583.3	582.8	582.3	581.8	581.3	582.5
15°	574.2	574.4	574.5	574.6	574.8	574.6	574.2	573.8	573.3	572.8	574.2
17.5°	561.2	561.6	562.1	562.5	563.0	563.2	563.1	563.0	562.9	562.8	564.1
20°	552.1	552.5	552.9	553.5	553.9	554.1	554.3	554.5	554.6	554.7	556.2
22.5°	541.9	542.4	543.0	543.5	544.2	544.6	544.8	545.1	545.4	545.6	547.2
25°	525.3	526.2	527.1	528.0	528.8	529.5	529.9	530.4	530.9	531.3	533.0
27.5°	506.8	508.1	509.4	510.7	512.0	513.0	513.7	514.4	515.1	515.7	517.3
30°	494.5	495.7	496.8	498.0	499.2	500.3	501.4	502.4	503.4	504.5	506.2
32.5°	481.0	482.5	483.9	485.3	486.8	488.1	489.2	490.4	491.5	492.8	494.6
35°	459.6	461.4	463.2	464.9	466.7	468.4	469.8	471.4	472.9	474.3	476.5
37.5°	438.1	440.1	442.1	444.2	446.3	448.2	450.0	451.9	453.7	455.6	457.7
40°	424.1	426.0	428.0	429.9	431.9	433.9	435.9	438.0	440.1	442.2	444.4
42.5°	408.0	410.2	412.3	414.6	416.7	419.0	421.5	423.9	426.4	428.8	431.3
45°	383.2	386.1	388.9	391.8	394.5	397.4	400.2	403.0	405.9	408.7	411.2
47.5°	359.6	362.4	365.3	368.2	371.2	374.3	377.5	380.8	384.1	387.4	390.0
50°	342.3	345.6	348.9	352.2	355.5	358.8	362.1	365.3	368.6	371.9	374.8
52.5°	325.2	328.5	331.7	335.0	338.3	341.8	345.6	349.3	353.1	356.8	359.8
55°	300.1	303.2	306.4	309.5	312.6	316.4	320.9	325.4	329.8	334.3	337.3
57.5°	272.2	276.0	279.9	283.8	287.7	291.8	296.2	300.7	305.1	309.5	313.1
60°	253.9	257.8	261.7	265.5	269.4	273.8	278.7	283.6	288.5	293.4	296.9
62.5°	236.3	240.5	244.7	248.9	253.1	257.7	262.6	267.5	272.5	277.4	280.8
65°	207.7	212.5	217.2	222.0	226.8	231.7	236.7	241.8	246.8	251.9	255.6
67.5°	180.2	185.3	190.4	195.4	200.4	205.7	211.1	216.5	222.0	227.4	231.2
70°	161.4	166.5	171.6	176.7	181.8	187.1	192.7	198.4	204.1	209.7	213.7
72.5°	143.3	148.4	153.6	158.8	163.9	169.5	175.6	181.6	187.6	193.6	197.5
75°	115.2	120.7	126.2	131.7	137.2	143.2	149.4	155.7	162.0	168.2	172.4
77.5°	89.1	95.0	100.8	106.6	112.4	118.6	125.2	131.7	138.3	144.8	149.0
80°	73.0	79.0	85.0	90.9	96.9	103.1	109.7	116.2	122.8	129.3	133.8
82.5°	56.9	63.1	69.3	75.5	81.7	88.1	94.6	101.2	107.7	114.3	118.9
85°	35.5	41.8	48.0	54.2	60.5	67.0	73.7	80.4	87.1	93.8	98.2
87.5°	20.1	26.3	32.6	38.8	45.1	51.6	58.3	64.9	71.5	78.3	82.7
90°	11.9	18.8	25.7	32.6	39.5	46.5	53.6	60.7	67.8	74.9	79.7
92.5°	18.5	25.0	31.4	37.9	44.3	51.0	57.9	64.7	71.6	78.5	83.1
95°	32.1	37.8	43.5	49.2	54.9	61.1	67.8	74.5	81.2	87.9	92.2
97.5°	48.8	53.6	58.5	63.4	68.2	74.0	80.8	87.5	94.3	101.0	105.2
100°	62.0	66.2	70.4	74.6	78.9	84.3	90.8	97.5	104.0	110.6	114.8
102.5°	76.4	79.9	83.4	87.0	90.5	95.5	101.9	108.2	114.7	121.1	125.2
105°	96.9	100.0	103.1	106.2	109.2	113.7	119.5	125.4	131.2	137.1	141.0
107.5°	119.9	122.3	124.9	127.4	130.0	133.9	139.1	144.5	149.7	155.0	158.9
110°	134.9	137.2	139.4	141.6	144.0	147.6	152.7	157.8	163.0	168.2	171.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	150.6	152.5	154.4	156.2	158.1	161.4	166.3	171.1	175.9	180.7	184.0
115°	174.1	175.5	176.8	178.1	179.5	182.4	187.0	191.7	196.2	200.8	204.0
117.5°	196.9	197.8	198.7	199.6	200.4	203.0	207.3	211.6	215.9	220.2	223.1
120°	211.7	212.5	213.3	214.0	214.9	217.3	221.4	225.4	229.5	233.5	236.1
122.5°	227.6	227.8	228.1	228.3	228.5	230.6	234.5	238.5	242.5	246.4	249.2
125°	250.5	250.3	250.1	249.9	249.9	251.6	255.2	258.8	262.5	266.1	268.8
127.5°	271.6	271.7	271.8	271.9	272.1	273.5	276.2	278.9	281.6	284.3	286.9
130°	286.0	286.2	286.3	286.4	286.5	287.7	290.2	292.5	294.9	297.3	299.8
132.5°	301.4	301.4	301.4	301.4	301.5	302.5	304.3	306.1	308.0	309.8	312.2
135°	320.9	321.4	321.9	322.4	323.0	323.7	324.8	325.8	326.8	327.9	330.1
137.5°	342.9	342.9	343.1	343.2	343.3	343.6	344.3	344.9	345.5	346.2	348.2
140°	357.6	357.6	357.6	357.7	357.7	357.7	357.9	358.0	358.2	358.3	360.2
142.5°	370.4	370.6	370.7	370.8	371.0	371.0	370.8	370.7	370.5	370.4	372.0
145°	388.9	389.1	389.3	389.4	389.7	389.8	389.9	389.9	390.0	390.1	391.0
147.5°	407.3	407.6	407.9	408.1	408.4	408.5	408.4	408.3	408.3	408.2	408.2
150°	418.5	418.7	419.0	419.1	419.3	419.4	419.4	419.4	419.4	419.4	419.4
152.5°	428.6	428.8	429.0	429.1	429.3	429.5	429.5	429.6	429.6	429.7	429.9
155°	444.8	444.8	444.8	444.8	444.8	444.7	444.6	444.5	444.4	444.4	444.7
157.5°	458.5	458.3	458.2	458.1	457.9	457.8	457.8	457.8	457.7	457.7	458.0
160°	466.7	466.6	466.5	466.4	466.3	466.2	466.1	466.1	466.0	465.9	466.1
162.5°	474.2	473.9	473.6	473.5	473.2	473.0	472.9	472.9	472.8	472.7	473.2
165°	484.1	483.9	483.6	483.4	483.1	482.9	482.8	482.6	482.4	482.2	482.8
167.5°	491.9	491.5	491.2	490.9	490.4	490.3	490.3	490.3	490.3	490.3	490.9
170°	496.3	495.8	495.4	495.0	494.6	494.4	494.5	494.6	494.6	494.7	495.2
172.5°	499.4	499.0	498.7	498.3	497.9	497.7	497.7	497.8	497.8	497.8	498.4
175°	503.7	503.3	502.8	502.4	502.0	501.7	501.6	501.5	501.4	501.4	502.0
177.5°	505.1	504.7	504.4	504.0	503.7	503.5	503.5	503.5	503.5	503.5	504.0
180°	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	598.3	598.3	598.3	598.3	598.3	598.3	598.3	598.3
2.5°	596.2	597.0	597.9	598.2	598.1	598.0	597.9	597.8
5°	594.7	595.8	597.0	597.5	597.4	597.3	597.1	596.9
7.5°	591.5	592.8	594.2	594.8	594.6	594.4	594.3	594.2
10°	588.2	589.6	590.9	591.5	591.4	591.2	591.1	590.9
12.5°	583.8	585.0	586.2	586.8	586.8	586.7	586.7	586.7
15°	575.5	576.9	578.2	578.8	578.7	578.5	578.3	578.2
17.5°	565.5	566.9	568.3	568.9	568.8	568.7	568.5	568.4
20°	557.8	559.2	560.7	561.5	561.5	561.5	561.5	561.5
22.5°	548.6	550.1	551.6	552.5	552.7	552.9	553.2	553.5
25°	534.6	536.2	537.9	538.7	538.9	539.1	539.2	539.3
27.5°	518.8	520.3	521.9	522.7	522.9	523.1	523.2	523.4
30°	507.8	509.5	511.1	512.0	512.3	512.6	512.9	513.2
32.5°	496.5	498.3	500.2	501.3	501.6	501.9	502.2	502.5
35°	478.5	480.6	482.7	484.0	484.4	484.8	485.3	485.8
37.5°	459.9	461.9	464.1	465.4	465.8	466.3	466.7	467.3
40°	446.7	448.9	451.2	452.5	453.1	453.7	454.3	455.0
42.5°	433.8	436.2	438.7	440.1	440.7	441.1	441.6	442.0
45°	413.8	416.3	418.8	420.4	421.2	422.0	422.7	423.4
47.5°	392.6	395.3	397.9	399.6	400.5	401.4	402.3	403.2
50°	377.8	380.8	383.7	385.7	386.6	387.4	388.4	389.3
52.5°	362.8	365.8	368.8	370.7	371.6	372.5	373.3	374.3
55°	340.3	343.3	346.2	348.2	349.0	350.0	350.9	351.7
57.5°	316.6	320.2	323.7	325.9	326.7	327.5	328.4	329.2
60°	300.3	303.8	307.1	309.4	310.6	311.9	313.1	314.3
62.5°	284.2	287.7	291.1	293.3	294.5	295.8	297.0	298.2
65°	259.3	263.1	266.8	269.2	270.4	271.6	272.9	274.1
67.5°	235.0	238.8	242.5	245.0	246.2	247.3	248.5	249.6
70°	217.7	221.8	225.8	228.3	229.4	230.4	231.4	232.5
72.5°	201.4	205.3	209.2	211.7	212.9	214.0	215.2	216.4
75°	176.5	180.6	184.9	187.6	188.9	190.3	191.7	193.0
77.5°	153.3	157.6	161.8	164.6	166.0	167.5	168.8	170.3
80°	138.3	142.7	147.1	150.0	151.2	152.4	153.6	154.8
82.5°	123.5	128.0	132.7	135.6	136.9	138.2	139.5	140.9
85°	102.7	107.2	111.7	114.7	116.1	117.6	119.1	120.6
87.5°	87.0	91.5	95.9	98.8	100.1	101.5	102.8	104.2
90°	84.6	89.5	94.3	97.4	98.8	100.1	101.4	102.8
92.5°	87.6	92.1	96.6	99.5	100.8	102.1	103.4	104.7
95°	96.5	100.8	105.0	107.9	109.2	110.6	111.9	113.2
97.5°	109.4	113.7	117.9	120.6	121.9	123.2	124.5	125.8
100°	119.0	123.2	127.4	130.0	131.0	132.1	133.1	134.1
102.5°	129.3	133.5	137.6	140.3	141.5	142.8	144.0	145.3
105°	145.1	149.0	153.0	155.8	157.1	158.6	160.1	161.5
107.5°	162.7	166.7	170.6	173.1	174.1	175.2	176.2	177.3
110°	174.6	177.9	181.2	183.5	184.9	186.4	187.8	189.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	187.3	190.5	193.8	196.0	197.3	198.5	199.8	201.0
115°	207.2	210.3	213.6	215.7	216.6	217.6	218.5	219.5
117.5°	225.9	228.7	231.5	233.4	234.5	235.4	236.4	237.5
120°	238.6	241.2	243.7	245.6	247.0	248.4	249.8	251.2
122.5°	251.8	254.5	257.2	258.9	259.7	260.5	261.1	261.9
125°	271.4	274.1	276.7	278.4	279.1	279.8	280.6	281.3
127.5°	289.4	291.9	294.4	296.0	297.0	297.8	298.7	299.5
130°	302.3	304.8	307.3	308.8	309.4	309.9	310.5	311.0
132.5°	314.5	316.9	319.3	320.9	321.7	322.4	323.1	323.9
135°	332.3	334.5	336.7	338.2	338.8	339.4	340.1	340.7
137.5°	350.1	352.1	354.0	355.3	356.2	357.0	357.7	358.5
140°	362.1	363.9	365.8	367.0	367.6	368.3	368.9	369.6
142.5°	373.8	375.4	377.1	378.2	378.8	379.4	380.0	380.6
145°	391.8	392.6	393.4	394.0	394.3	394.6	394.9	395.3
147.5°	408.3	408.3	408.4	408.6	409.0	409.4	409.7	410.2
150°	419.4	419.4	419.4	419.4	419.3	419.2	419.1	419.0
152.5°	430.2	430.3	430.6	430.5	430.3	430.1	429.9	429.6
155°	445.1	445.4	445.7	445.7	445.4	445.1	444.7	444.4
157.5°	458.2	458.5	458.7	458.7	458.5	458.1	457.9	457.5
160°	466.4	466.7	466.9	466.8	466.4	466.0	465.5	465.0
162.5°	473.6	474.2	474.6	474.6	474.2	473.7	473.3	472.9
165°	483.3	483.8	484.3	484.4	484.1	483.7	483.4	483.0
167.5°	491.4	491.9	492.4	492.4	491.9	491.4	490.8	490.3
170°	495.8	496.3	496.8	496.7	496.1	495.5	494.9	494.3
172.5°	499.0	499.6	500.2	500.2	499.6	498.9	498.3	497.7
175°	502.6	503.2	503.8	503.8	503.2	502.6	502.0	501.4
177.5°	504.5	505.0	505.5	505.4	504.9	504.4	503.8	503.3
180°	504.5	504.5	504.5	504.5	504.5	504.5	504.5	504.5

(END OF REPORT)