

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: P332749-940

Luminaire Tested: **S124DIW-S575D470U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332749-940  
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-S575D470U940-4F0-1E-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: 3895.1 lumens  
Efficiency: N/A  
Efficacy: 129.0 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

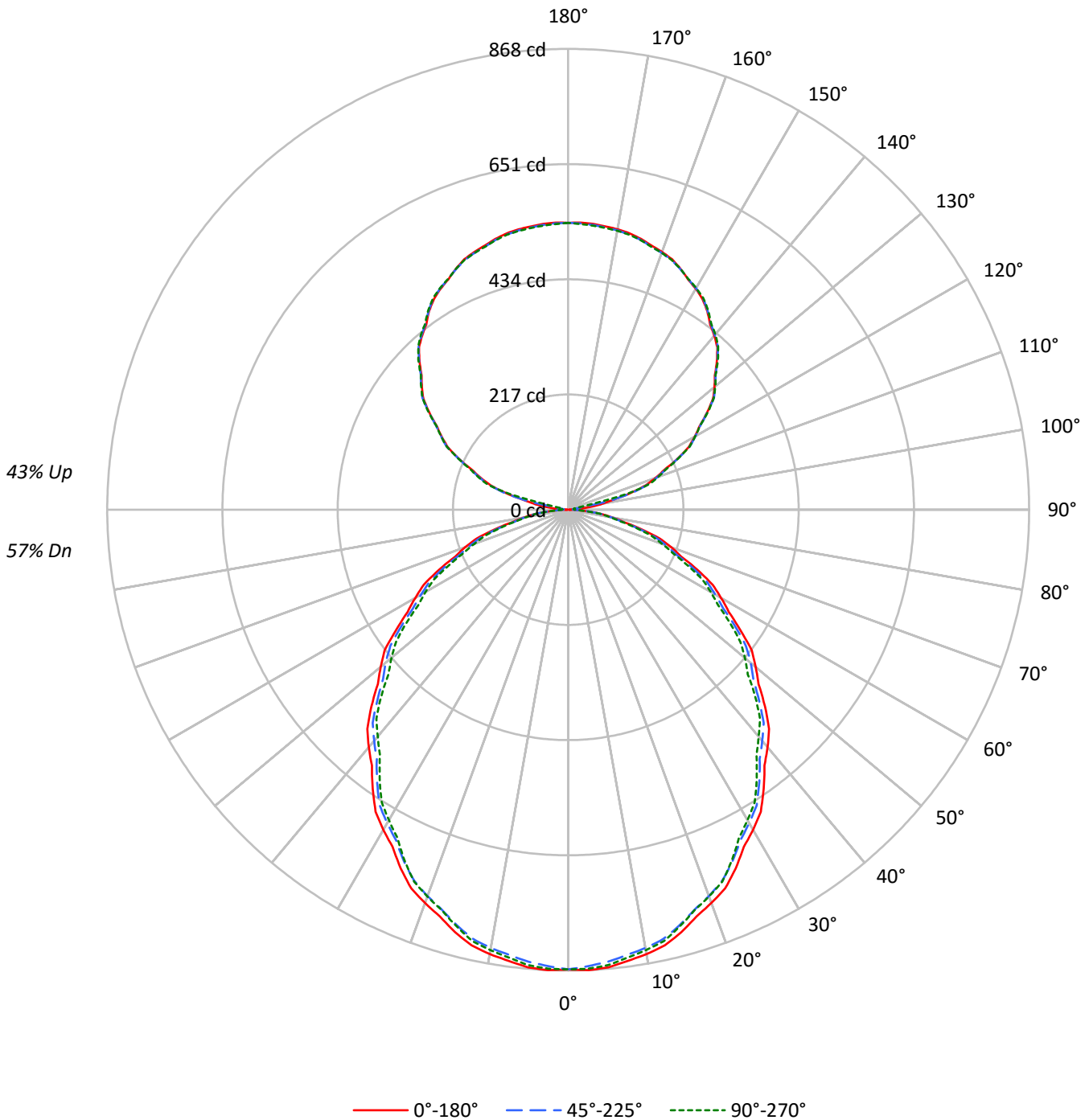
Input Watts (W): 30.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	6990	6990	6990
5°	7012	6928	6978
10°	6968	6871	6906
15°	6884	6774	6791
20°	6772	6653	6659
25°	6644	6515	6495
30°	6488	6352	6293
35°	6326	6182	6099
40°	6157	5989	5879
45°	5981	5799	5688
50°	5786	5630	5456
55°	5576	5410	5234
60°	5365	5165	5007
65°	5129	4932	4732
70°	4865	4617	4440
75°	4457	4242	4133
80°	3966	3808	3710
85°	3473	3344	3279



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.6	2.1
10°-20°	229.8	5.9
20°-30°	338.2	8.7
30°-40°	393.2	10.1
40°-50°	393.2	10.1
50°-60°	343.9	8.8
60°-70°	255.4	6.6
70°-80°	145.1	3.7
80°-90°	43.4	1.1
90°-100°	18.5	0.5
100°-110°	117.8	3.0
110°-120°	225.4	5.8
120°-130°	286.1	7.3
130°-140°	306.1	7.9
140°-150°	286.3	7.3
150°-160°	230.9	5.9
160°-170°	148.9	3.8
170°-180°	51.3	1.3
0°-30°	649.5	16.7
0°-40°	1042.7	26.8
0°-60°	1779.8	45.7
0°-90°	2223.8	57.1
90°-120°	361.7	9.3
90°-150°	1240.3	31.8
90°-180°	1671.0	42.9
0°-180°	3895.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	866	866	866	866	866	
5°	865	862	855	862	861	82
15°	824	820	810	814	812	232
25°	746	741	731	732	729	343
35°	642	637	627	622	619	401
45°	524	519	508	501	498	404
55°	396	394	384	376	372	355
65°	268	265	258	251	248	266
75°	143	139	136	133	132	152
85°	38	37	36	36	35	41
90°	1	6	9	11	12	3
95°	22	9	9	11	12	29
105°	122	124	126	129	115	127
115°	227	228	228	229	229	223
125°	319	321	320	321	322	285
135°	396	396	397	398	399	305
145°	457	458	458	458	459	285
155°	501	501	500	501	500	231
165°	528	526	526	529	526	149
175°	540	538	538	541	537	51
180°	540	540	540	540	540	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9
2.5°	868.2	867.8	867.5	867.1	866.7	865.9	864.5	863.2	861.7	860.4	861.7
5°	865.3	864.7	864.1	863.4	862.8	861.7	860.0	858.3	856.6	854.9	856.6
7.5°	857.2	856.6	856.0	855.4	854.8	853.5	851.7	849.8	847.8	846.0	847.4
10°	850.0	849.4	848.8	848.2	847.6	846.2	844.3	842.2	840.3	838.2	839.5
12.5°	840.6	840.0	839.4	838.7	838.1	836.8	834.6	832.5	830.4	828.2	829.6
15°	823.7	823.0	822.4	821.8	821.2	819.7	817.4	815.1	812.8	810.5	811.4
17.5°	803.3	802.5	801.7	800.9	800.1	798.7	796.5	794.3	792.1	790.0	790.5
20°	788.3	787.5	786.8	786.0	785.2	783.6	781.3	779.0	776.7	774.4	774.8
22.5°	772.1	771.2	770.2	769.1	768.1	766.4	764.1	761.8	759.5	757.2	758.0
25°	745.9	744.8	743.8	742.7	741.6	740.0	737.8	735.7	733.5	731.4	731.6
27.5°	716.0	714.9	713.7	712.7	711.5	710.0	707.9	706.0	703.9	702.0	701.6
30°	696.0	694.7	693.5	692.2	691.1	689.4	687.4	685.4	683.4	681.4	680.8
32.5°	674.8	673.8	672.6	671.5	670.5	668.8	666.7	664.6	662.5	660.3	659.6
35°	641.9	640.8	639.7	638.6	637.6	635.9	633.7	631.6	629.5	627.3	626.2
37.5°	607.0	606.0	605.0	604.0	603.1	601.5	599.1	596.8	594.5	592.2	591.0
40°	584.2	583.0	581.8	580.6	579.3	577.6	575.2	572.9	570.6	568.3	566.8
42.5°	559.8	559.1	558.4	557.6	556.9	555.2	552.7	550.1	547.5	545.0	543.2
45°	523.9	522.8	521.7	520.7	519.6	517.8	515.3	512.8	510.4	507.9	506.2
47.5°	486.2	485.5	484.8	484.0	483.3	481.8	479.6	477.2	474.9	472.7	470.7
50°	460.7	460.1	459.5	458.9	458.3	456.9	454.8	452.5	450.4	448.3	446.1
52.5°	435.8	435.1	434.3	433.5	432.8	431.3	429.0	426.8	424.5	422.1	420.3
55°	396.2	395.7	395.3	394.8	394.4	393.1	390.9	388.7	386.6	384.4	382.5
57.5°	358.5	357.9	357.4	356.9	356.3	355.1	352.9	350.8	348.7	346.5	344.7
60°	332.3	331.6	330.8	330.0	329.3	327.9	325.9	323.9	321.9	319.9	318.5
62.5°	306.8	306.2	305.5	304.9	304.3	302.8	300.8	298.6	296.5	294.4	293.1
65°	268.5	267.8	267.0	266.3	265.5	264.3	262.8	261.2	259.7	258.2	256.5
67.5°	230.0	229.3	228.5	227.8	227.1	226.0	224.5	223.1	221.6	220.1	218.6
70°	206.1	205.0	203.9	202.9	201.8	200.6	199.4	198.1	196.9	195.6	194.5
72.5°	180.6	179.5	178.4	177.3	176.2	175.2	174.2	173.3	172.3	171.2	170.2
75°	142.9	142.1	141.4	140.6	139.8	139.1	138.3	137.5	136.8	136.0	135.4
77.5°	107.0	106.6	106.3	106.0	105.7	105.1	104.4	103.8	103.1	102.5	102.2
80°	85.3	84.9	84.4	84.0	83.5	83.1	82.8	82.5	82.2	81.9	81.6
82.5°	64.3	64.0	63.8	63.6	63.4	63.2	63.2	63.1	63.0	63.0	62.8
85°	37.5	37.5	37.5	37.5	37.5	37.3	37.0	36.7	36.4	36.1	36.1
87.5°	14.7	14.7	14.8	14.9	15.0	15.0	15.1	15.1	15.1	15.1	15.2
90°	1.2	2.2	3.2	4.2	5.2	6.0	6.8	7.5	8.2	8.9	9.5
92.5°	5.1	5.2	5.2	5.3	5.4	5.7	6.4	7.1	7.8	8.6	9.1
95°	22.2	19.2	16.1	13.1	10.0	8.6	8.6	8.7	8.8	8.9	9.5
97.5°	47.2	49.1	51.0	52.9	54.8	50.7	40.8	30.7	20.7	10.7	10.7
100°	66.3	67.9	69.6	71.2	72.8	67.3	54.9	42.5	30.1	17.7	16.2
102.5°	87.7	88.8	90.0	91.1	92.4	92.1	90.5	88.9	87.3	85.7	69.2
105°	121.6	122.2	122.7	123.2	123.8	124.3	124.8	125.2	125.6	126.1	126.9
107.5°	153.3	153.6	153.8	154.1	154.4	154.8	155.3	156.0	156.6	157.2	157.6
110°	174.6	174.9	175.1	175.4	175.7	176.0	176.6	177.2	177.7	178.3	178.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	195.3	195.7	196.3	196.7	197.2	197.6	197.9	198.0	198.3	198.6	198.6
115°	227.1	227.4	227.7	227.9	228.2	228.3	228.2	228.1	228.0	227.9	228.1
117.5°	255.8	256.2	256.5	256.9	257.3	257.5	257.7	257.9	258.2	258.3	258.2
120°	275.2	275.5	275.9	276.3	276.6	276.8	276.7	276.6	276.5	276.4	276.6
122.5°	293.3	293.6	293.7	294.0	294.2	294.4	294.4	294.6	294.7	294.9	295.0
125°	319.2	319.6	319.9	320.3	320.7	320.7	320.6	320.4	320.2	320.0	320.3
127.5°	343.8	343.9	344.0	344.1	344.2	344.5	344.8	345.3	345.7	346.1	346.1
130°	359.6	359.7	359.9	360.0	360.1	360.3	360.5	360.8	361.1	361.3	361.4
132.5°	374.3	374.3	374.5	374.7	374.9	375.1	375.5	375.8	376.1	376.5	376.6
135°	396.0	395.9	395.8	395.7	395.7	395.8	396.2	396.5	396.9	397.3	397.4
137.5°	415.4	415.4	415.4	415.4	415.5	415.7	416.1	416.5	416.9	417.3	417.5
140°	427.9	428.1	428.3	428.5	428.6	428.8	429.0	429.3	429.4	429.6	429.9
142.5°	439.3	439.6	440.0	440.2	440.6	440.8	440.9	441.0	441.1	441.2	441.4
145°	456.6	456.9	457.2	457.4	457.7	457.9	457.9	457.9	457.9	457.9	458.0
147.5°	470.5	471.0	471.4	472.0	472.5	472.7	472.6	472.5	472.4	472.3	472.4
150°	480.5	480.9	481.3	481.6	482.0	482.1	482.0	481.9	481.8	481.7	481.7
152.5°	488.9	489.2	489.5	489.7	490.1	490.1	490.0	489.8	489.6	489.5	489.6
155°	500.7	500.8	500.9	501.0	501.1	501.0	500.7	500.4	500.2	499.9	500.2
157.5°	510.7	510.6	510.5	510.5	510.4	510.2	510.0	509.6	509.3	509.1	509.5
160°	516.5	516.2	515.9	515.7	515.4	515.2	515.1	515.1	515.0	514.9	515.4
162.5°	521.7	521.3	520.9	520.6	520.3	520.0	520.0	519.9	519.8	519.7	520.2
165°	528.2	527.7	527.3	526.8	526.4	526.2	526.2	526.2	526.2	526.2	526.9
167.5°	533.3	532.9	532.4	532.0	531.5	531.2	531.2	531.1	531.1	531.0	531.8
170°	536.3	535.7	535.2	534.7	534.1	533.9	534.0	534.0	534.1	534.2	534.9
172.5°	538.2	537.7	537.2	536.6	536.1	535.8	535.9	536.0	536.1	536.2	536.9
175°	540.3	539.8	539.2	538.7	538.1	538.0	538.1	538.1	538.2	538.3	539.1
177.5°	541.3	540.8	540.3	539.8	539.3	539.1	539.2	539.4	539.5	539.7	540.2
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	865.9	865.9	865.9	865.9	865.9	865.9	865.9	865.9
2.5°	862.9	864.2	865.4	865.9	865.8	865.7	865.6	865.4
5°	858.3	860.0	861.7	862.4	862.0	861.7	861.4	861.1
7.5°	848.7	850.1	851.4	852.0	851.9	851.7	851.5	851.2
10°	840.7	842.0	843.2	843.6	843.3	843.0	842.7	842.4
12.5°	831.0	832.3	833.7	834.1	833.7	833.2	832.9	832.4
15°	812.3	813.2	814.1	814.4	814.0	813.5	813.0	812.5
17.5°	791.1	791.7	792.3	792.4	792.1	791.8	791.5	791.2
20°	775.3	775.8	776.2	776.3	776.0	775.7	775.4	775.1
22.5°	758.8	759.6	760.5	760.6	760.1	759.6	759.0	758.4
25°	731.6	731.8	732.0	731.7	731.1	730.5	729.9	729.2
27.5°	701.2	700.8	700.4	699.9	699.1	698.4	697.6	696.8
30°	680.2	679.6	678.9	678.2	677.4	676.7	675.9	675.1
32.5°	658.8	658.1	657.4	656.6	655.9	655.1	654.2	653.5
35°	625.1	624.0	622.9	622.1	621.3	620.5	619.7	618.9
37.5°	589.9	588.6	587.5	586.4	585.4	584.3	583.4	582.3
40°	565.3	563.7	562.1	561.0	560.2	559.5	558.7	557.9
42.5°	541.4	539.6	537.8	536.6	536.2	535.7	535.1	534.6
45°	504.5	502.8	501.1	500.1	499.6	499.2	498.6	498.2
47.5°	468.9	466.9	465.0	463.5	462.4	461.1	459.9	458.8
50°	443.9	441.8	439.6	438.1	437.1	436.2	435.3	434.4
52.5°	418.3	416.4	414.6	413.0	411.8	410.6	409.5	408.3
55°	380.8	378.9	377.0	375.6	374.7	373.8	372.8	371.9
57.5°	343.0	341.3	339.5	338.1	337.2	336.4	335.5	334.6
60°	317.1	315.8	314.3	313.3	312.5	311.7	310.9	310.1
62.5°	291.9	290.5	289.3	288.3	287.5	286.8	286.0	285.2
65°	255.0	253.5	252.0	250.8	250.0	249.2	248.5	247.7
67.5°	217.1	215.7	214.2	213.3	213.1	212.9	212.7	212.5
70°	193.2	192.0	190.7	189.9	189.4	189.0	188.5	188.1
72.5°	169.2	168.3	167.3	166.6	166.1	165.7	165.2	164.7
75°	134.7	134.1	133.6	133.1	133.0	132.9	132.7	132.5
77.5°	102.0	101.8	101.7	101.4	100.9	100.6	100.1	99.8
80°	81.2	81.0	80.6	80.4	80.3	80.1	80.0	79.8
82.5°	62.6	62.4	62.2	62.1	62.0	61.8	61.6	61.4
85°	36.1	36.1	36.1	36.0	35.8	35.7	35.6	35.4
87.5°	15.3	15.4	15.5	15.6	15.6	15.7	15.7	15.8
90°	10.0	10.5	11.1	11.4	11.6	11.8	11.9	12.1
92.5°	9.6	10.2	10.7	11.0	11.1	11.1	11.1	11.1
95°	10.0	10.5	11.1	11.3	11.4	11.5	11.6	11.7
97.5°	10.8	10.8	10.9	11.0	11.1	11.1	11.2	11.3
100°	14.7	13.2	11.7	11.0	11.1	11.1	11.2	11.3
102.5°	52.7	36.3	19.8	11.6	11.6	11.6	11.6	11.7
105°	127.7	128.5	129.3	128.1	124.8	121.6	118.4	115.2
107.5°	158.0	158.4	158.8	159.2	159.5	159.8	160.2	160.5
110°	178.6	178.8	179.0	179.1	179.4	179.7	179.9	180.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	198.5	198.5	198.4	198.6	198.9	199.3	199.7	199.9
115°	228.3	228.5	228.6	228.7	228.7	228.7	228.7	228.7
117.5°	258.2	258.2	258.2	258.2	258.1	258.1	258.1	258.0
120°	276.8	277.0	277.1	277.1	277.0	276.8	276.6	276.4
122.5°	295.1	295.2	295.2	295.2	295.1	294.9	294.7	294.5
125°	320.6	320.8	321.1	321.3	321.4	321.5	321.6	321.6
127.5°	346.0	345.9	345.9	345.8	345.7	345.6	345.6	345.5
130°	361.5	361.6	361.7	361.7	361.7	361.7	361.7	361.7
132.5°	376.7	376.7	376.8	376.8	376.7	376.7	376.7	376.6
135°	397.6	397.8	398.0	398.1	398.3	398.5	398.7	398.9
137.5°	417.7	417.9	418.1	418.1	418.1	418.0	418.0	417.9
140°	430.2	430.4	430.7	430.9	431.0	431.1	431.1	431.2
142.5°	441.6	441.8	442.0	442.1	442.1	442.2	442.2	442.2
145°	458.1	458.2	458.3	458.3	458.5	458.7	458.9	459.1
147.5°	472.5	472.5	472.6	472.7	472.8	472.9	473.0	473.1
150°	481.7	481.7	481.7	481.8	481.9	482.0	482.1	482.1
152.5°	489.7	489.9	490.1	490.1	490.1	490.0	489.9	489.9
155°	500.6	501.0	501.3	501.4	501.1	500.9	500.6	500.3
157.5°	510.0	510.4	510.9	510.9	510.4	510.0	509.5	509.1
160°	515.9	516.5	517.0	517.0	516.5	515.9	515.4	514.9
162.5°	520.8	521.3	521.8	521.8	521.2	520.6	520.0	519.4
165°	527.6	528.3	529.1	529.0	528.2	527.4	526.6	525.8
167.5°	532.6	533.4	534.2	534.1	533.2	532.4	531.5	530.6
170°	535.7	536.4	537.2	537.1	536.1	535.2	534.3	533.4
172.5°	537.6	538.3	539.0	539.0	538.0	537.0	536.0	535.0
175°	539.9	540.7	541.5	541.4	540.3	539.2	538.1	537.1
177.5°	540.8	541.4	542.0	541.8	541.0	540.1	539.2	538.4
180°	540.3	540.3	540.3	540.3	540.3	540.3	540.3	540.3

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