

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: P332255-840

Luminaire Tested: **S123RDIP-S340D805U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332255-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S340D805U840-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4554.3 lumens  
Efficiency: N/A  
Efficacy: 146.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

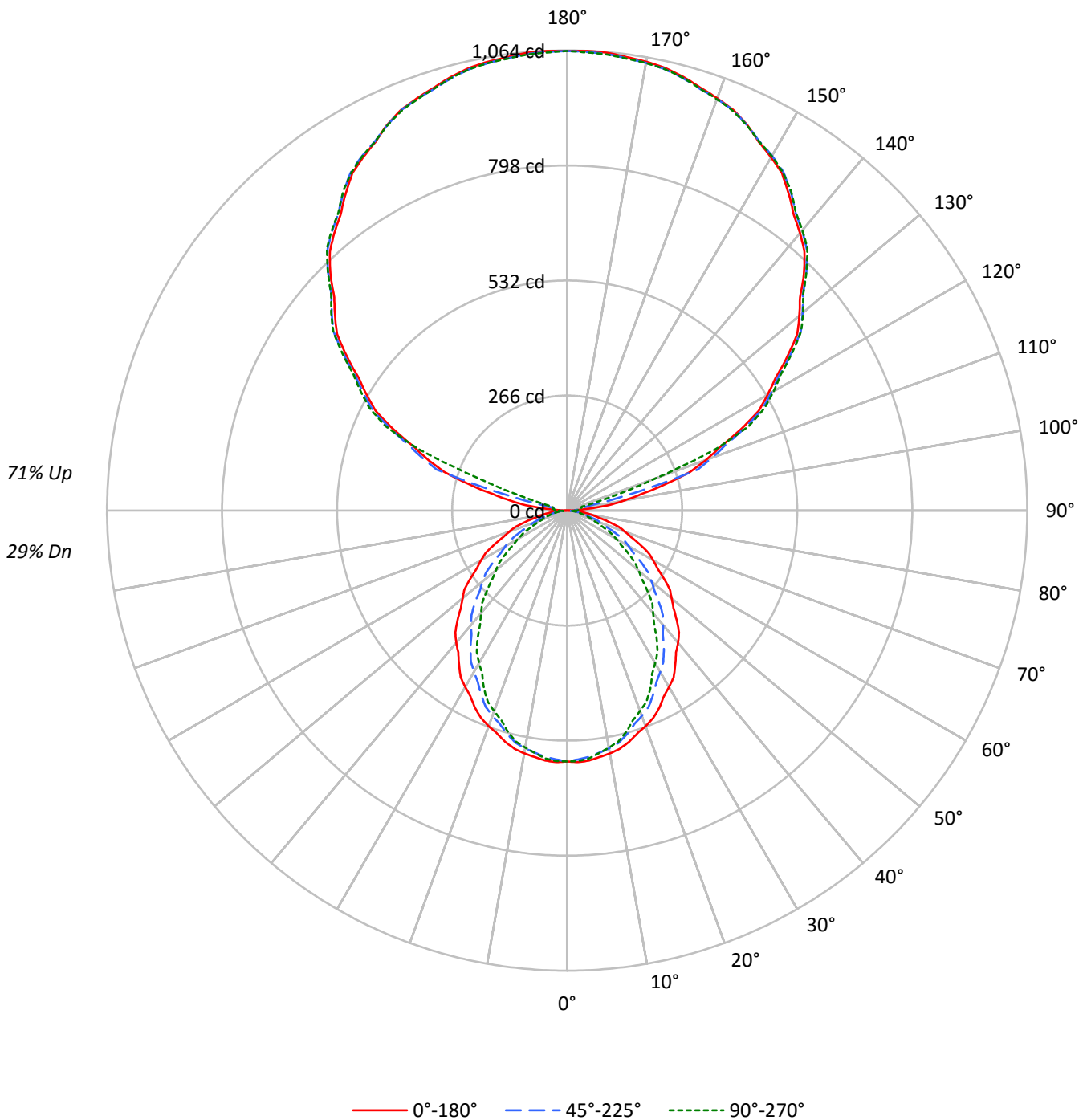
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	72	72	72	53	53	53	37	37	37	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25
2	85	78	72	67	76	70	65	61	55	52	49	42	39	38	29	28	27	21
3	78	69	62	56	69	62	56	51	49	45	41	37	34	32	26	24	23	18
4	71	61	53	47	63	55	48	43	43	39	35	33	30	27	23	21	20	16
5	65	54	46	41	58	49	42	37	39	34	30	30	26	24	21	19	17	14
6	60	48	41	35	54	44	37	32	35	30	26	27	23	21	19	17	15	12
7	55	44	36	31	49	39	33	28	32	27	23	24	21	18	17	15	14	11
8	51	39	32	27	46	36	29	25	29	24	21	22	19	16	16	14	12	10
9	48	36	29	24	43	33	26	22	26	22	18	20	17	15	15	13	11	9
10	44	33	26	21	40	30	24	20	24	20	16	19	16	13	14	12	10	8

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

	0°	45°	90°
0°	6245	6245	6245
5°	6269	6183	6218
10°	6233	6105	6084
15°	6167	5962	5899
20°	6074	5783	5648
25°	5980	5583	5404
30°	5854	5351	5059
35°	5727	5119	4742
40°	5606	4846	4350
45°	5451	4576	3997
50°	5280	4270	3600
55°	5104	3920	3232
60°	4943	3546	2827
65°	4735	3140	2420
70°	4472	2634	1954
75°	4092	2075	1838
80°	3645	1841	1692
85°	3075	1618	1507



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.5	1.2
10°-20°	151.6	3.3
20°-30°	218.3	4.8
30°-40°	245.9	5.4
40°-50°	235.2	5.2
50°-60°	192.6	4.2
60°-70°	130.0	2.9
70°-80°	65.4	1.4
80°-90°	20.3	0.4
90°-100°	38.6	0.8
100°-110°	184.1	4.0
110°-120°	442.3	9.7
120°-130°	563.2	12.4
130°-140°	601.8	13.2
140°-150°	562.7	12.4
150°-160°	453.9	10.0
160°-170°	293.0	6.4
170°-180°	101.0	2.2
0°-30°	424.3	9.3
0°-40°	670.2	14.7
0°-60°	1098.1	24.1
0°-90°	1313.6	28.8
90°-120°	665.1	14.6
90°-150°	2392.8	52.5
90°-180°	3241.0	71.2
0°-180°	4554.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	580	578	572	576	576	55
15°	553	548	535	533	529	156
25°	504	491	470	460	455	231
35°	436	418	390	370	361	273
45°	358	336	301	275	263	276
55°	272	248	209	183	172	244
65°	186	159	123	101	95	184
75°	98	76	50	45	44	105
85°	25	15	13	12	12	28
90°	1	9	19	22	24	3
95°	48	18	24	30	30	60
105°	235	240	173	41	35	249
115°	441	446	453	461	464	435
125°	622	628	632	633	635	555
135°	774	779	782	784	782	596
145°	894	899	901	902	902	559
155°	984	983	984	987	983	453
165°	1038	1036	1035	1041	1036	293
175°	1063	1059	1060	1064	1059	101
180°	1063	1063	1063	1063	1063	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	582.1	581.7	581.4	581.1	580.8	580.1	579.1	578.0	577.0	576.0	576.9
5°	580.2	579.7	579.2	578.7	578.0	577.2	575.9	574.7	573.4	572.2	573.1
7.5°	574.8	574.2	573.7	573.1	572.6	571.5	569.9	568.3	566.5	564.9	565.4
10°	570.3	569.6	568.9	568.2	567.3	566.0	564.2	562.3	560.4	558.6	558.7
12.5°	563.9	563.1	562.3	561.5	560.7	559.1	556.7	554.5	552.2	549.9	549.8
15°	553.4	552.2	551.1	549.9	548.8	546.7	543.8	540.9	538.0	535.0	534.5
17.5°	540.1	538.8	537.5	536.0	534.7	532.2	528.5	524.7	521.1	517.4	516.2
20°	530.3	528.7	526.9	525.3	523.6	520.8	516.8	512.8	508.9	504.9	503.5
22.5°	519.4	517.5	515.5	513.6	511.7	508.7	504.4	500.2	495.9	491.7	490.0
25°	503.5	500.9	498.3	495.6	493.0	489.3	484.5	479.7	474.8	470.1	467.9
27.5°	484.2	481.3	478.4	475.5	472.6	468.6	463.2	457.8	452.4	447.1	444.0
30°	471.0	467.9	464.7	461.6	458.5	453.9	448.1	442.2	436.4	430.5	427.0
32.5°	457.9	454.2	450.7	447.2	443.6	438.8	432.5	426.4	420.2	413.9	410.1
35°	435.8	431.9	428.2	424.4	420.7	415.6	409.1	402.5	396.1	389.6	385.2
37.5°	413.3	409.1	405.0	400.8	396.6	391.0	384.2	377.2	370.3	363.3	358.3
40°	399.0	394.5	389.8	385.3	380.6	374.6	367.2	359.7	352.3	344.9	339.5
42.5°	382.8	378.2	373.7	369.0	364.5	358.3	350.6	343.0	335.3	327.6	321.6
45°	358.1	353.4	348.7	344.0	339.2	332.9	324.9	316.8	308.7	300.6	294.7
47.5°	333.4	328.2	323.0	317.8	312.7	306.1	298.0	289.9	282.0	273.9	267.4
50°	315.3	310.3	305.5	300.5	295.6	288.9	280.4	272.0	263.5	255.0	248.5
52.5°	299.1	293.8	288.4	283.1	277.7	270.8	262.5	254.1	245.7	237.3	230.7
55°	272.0	266.8	261.8	256.6	251.5	244.5	235.6	226.7	217.8	208.9	202.9
57.5°	246.9	241.4	235.8	230.1	224.6	217.3	208.4	199.4	190.6	181.7	175.9
60°	229.6	223.9	218.1	212.4	206.6	199.4	190.8	182.1	173.4	164.7	159.1
62.5°	212.3	206.5	200.8	195.1	189.3	182.1	173.4	164.7	156.0	147.3	142.1
65°	185.9	180.2	174.4	168.6	162.9	155.9	147.7	139.6	131.5	123.3	118.2
67.5°	159.5	153.6	147.7	142.0	136.1	129.4	121.5	113.7	105.8	98.1	94.2
70°	142.1	136.4	130.8	125.1	119.6	113.0	105.7	98.4	91.1	83.7	80.1
72.5°	124.8	119.3	113.7	108.1	102.5	96.4	89.8	83.1	76.4	69.8	66.9
75°	98.4	93.3	88.3	83.3	78.3	72.9	67.2	61.4	55.6	49.9	48.9
77.5°	74.2	69.7	65.1	60.6	56.1	52.0	48.3	44.5	40.9	37.2	36.7
80°	58.8	54.5	50.3	45.9	41.7	38.5	36.3	34.0	31.8	29.7	29.3
82.5°	44.1	40.4	36.8	33.0	29.3	27.0	26.0	24.9	23.9	22.8	22.5
85°	24.9	22.6	20.3	18.1	15.8	14.4	14.1	13.8	13.5	13.1	12.9
87.5°	9.2	8.6	8.1	7.5	6.9	6.9	7.3	7.8	8.2	8.7	8.8
90°	0.8	2.5	4.3	6.1	7.8	9.8	12.1	14.3	16.7	19.0	19.7
92.5°	14.6	14.2	13.7	13.2	12.7	13.3	15.0	16.8	18.5	20.2	21.3
95°	48.2	41.0	33.7	26.6	19.4	16.8	18.7	20.6	22.5	24.4	25.8
97.5°	96.7	93.6	90.4	87.2	83.9	75.9	63.3	50.7	38.1	25.4	26.9
100°	133.4	136.9	140.5	143.9	147.4	135.5	108.2	80.8	53.4	26.1	27.5
102.5°	175.1	177.6	180.2	182.7	185.2	171.6	141.7	111.7	81.8	51.9	47.6
105°	235.3	237.2	239.1	241.1	243.0	236.1	220.3	204.5	188.6	172.9	141.9
107.5°	298.7	300.3	301.8	303.4	304.9	306.9	309.4	311.9	314.4	316.9	294.2
110°	341.0	342.4	343.9	345.3	346.7	348.3	350.3	352.2	354.2	356.1	350.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.5	382.7	384.1	385.3	386.6	388.1	390.1	392.0	393.9	395.9	396.0
115°	441.3	442.4	443.4	444.5	445.6	446.9	448.5	450.0	451.6	453.2	454.9
117.5°	499.3	500.6	501.9	503.2	504.4	505.5	506.3	507.2	508.0	508.8	510.2
120°	535.3	536.8	538.5	540.0	541.6	542.7	543.2	543.7	544.2	544.7	546.1
122.5°	571.9	573.2	574.5	575.8	577.1	578.0	578.8	579.5	580.1	580.8	581.8
125°	622.2	623.5	624.9	626.3	627.7	628.8	629.5	630.2	630.9	631.6	632.0
127.5°	670.8	672.2	673.6	675.0	676.4	677.5	678.3	679.2	680.0	680.9	681.5
130°	701.0	702.5	703.9	705.3	706.7	707.7	708.4	709.1	709.8	710.5	711.2
132.5°	730.1	731.5	733.0	734.4	735.8	736.7	737.3	737.8	738.4	739.0	739.7
135°	774.5	775.6	776.6	777.7	778.7	779.6	780.3	781.0	781.7	782.4	782.9
137.5°	812.4	813.7	815.1	816.4	817.7	818.6	819.0	819.4	819.7	820.1	821.0
140°	837.7	838.7	839.8	840.8	841.9	842.6	843.2	843.7	844.2	844.8	845.5
142.5°	861.0	862.1	863.1	864.2	865.3	866.1	866.6	867.1	867.6	868.2	868.7
145°	893.7	894.9	896.2	897.4	898.7	899.4	899.8	900.1	900.5	900.8	901.2
147.5°	924.5	925.3	926.1	927.0	927.8	928.4	928.7	929.0	929.4	929.7	930.1
150°	943.4	944.0	944.5	945.0	945.5	946.0	946.3	946.7	947.1	947.5	947.8
152.5°	960.5	960.8	961.0	961.3	961.5	961.7	961.9	962.1	962.4	962.6	963.2
155°	984.5	984.2	983.8	983.5	983.1	983.0	983.2	983.4	983.5	983.7	984.6
157.5°	1003.1	1003.1	1003.1	1003.0	1003.0	1002.9	1002.7	1002.6	1002.4	1002.2	1003.3
160°	1014.5	1014.3	1014.2	1014.0	1013.8	1013.6	1013.5	1013.3	1013.1	1012.9	1014.0
162.5°	1025.2	1024.8	1024.3	1023.9	1023.4	1023.1	1022.9	1022.8	1022.6	1022.4	1023.6
165°	1038.2	1037.6	1037.1	1036.6	1036.1	1035.7	1035.6	1035.4	1035.2	1035.0	1036.4
167.5°	1048.3	1047.6	1046.9	1046.2	1045.5	1045.1	1045.1	1045.1	1045.1	1045.1	1046.5
170°	1054.0	1053.3	1052.6	1051.9	1051.2	1050.9	1050.9	1050.9	1050.9	1050.9	1052.3
172.5°	1057.7	1056.9	1056.1	1055.2	1054.4	1054.1	1054.2	1054.3	1054.5	1054.6	1056.0
175°	1062.7	1061.8	1061.0	1060.1	1059.1	1058.8	1058.9	1059.1	1059.3	1059.6	1060.8
177.5°	1063.9	1063.3	1062.6	1061.9	1061.2	1060.9	1061.0	1061.2	1061.3	1061.4	1062.6
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	577.8	578.8	579.8	580.1	580.0	579.8	579.6	579.5
5°	574.1	575.0	575.9	576.3	576.1	575.9	575.7	575.5
7.5°	566.0	566.5	567.0	567.1	566.7	566.4	566.0	565.7
10°	558.8	558.9	559.0	558.8	558.3	557.7	557.1	556.6
12.5°	549.8	549.7	549.7	549.3	548.7	548.1	547.4	546.8
15°	533.9	533.4	532.9	532.3	531.6	530.8	530.1	529.4
17.5°	515.1	514.0	512.9	511.8	510.7	509.6	508.6	507.5
20°	502.2	500.8	499.5	498.2	496.9	495.6	494.4	493.1
22.5°	488.4	486.7	484.9	483.5	482.3	481.2	480.0	478.9
25°	465.6	463.5	461.3	459.6	458.5	457.4	456.2	455.0
27.5°	441.0	438.0	434.9	432.5	430.7	429.0	427.3	425.5
30°	423.4	419.9	416.4	413.7	412.0	410.4	408.7	407.0
32.5°	406.2	402.3	398.4	395.6	393.8	392.1	390.3	388.6
35°	380.6	376.1	371.6	368.4	366.6	364.7	362.7	360.9
37.5°	353.1	348.0	343.0	339.2	336.9	334.6	332.2	329.9
40°	334.1	328.6	323.2	319.2	316.8	314.5	312.0	309.6
42.5°	315.7	309.8	303.9	299.8	297.6	295.5	293.4	291.1
45°	288.7	282.8	276.8	272.6	270.1	267.6	265.1	262.6
47.5°	260.8	254.4	247.9	243.6	241.4	239.1	236.8	234.6
50°	242.1	235.6	229.1	224.7	222.3	219.8	217.4	215.0
52.5°	223.9	217.1	210.5	206.0	203.8	201.7	199.5	197.3
55°	196.8	190.8	184.7	180.6	178.5	176.4	174.3	172.2
57.5°	170.2	164.4	158.8	154.9	153.2	151.4	149.7	147.8
60°	153.4	147.7	142.1	138.4	136.6	134.8	133.1	131.3
62.5°	136.7	131.5	126.1	122.5	120.7	118.9	116.9	115.1
65°	113.0	108.0	102.8	99.7	98.5	97.4	96.2	95.0
67.5°	90.4	86.5	82.7	80.2	79.0	77.8	76.5	75.3
70°	76.4	72.8	69.1	66.8	65.5	64.4	63.2	62.1
72.5°	63.8	60.9	57.9	56.1	55.6	55.1	54.7	54.2
75°	47.8	46.8	45.6	45.0	44.8	44.6	44.4	44.2
77.5°	36.1	35.4	34.9	34.5	34.3	34.1	33.9	33.7
80°	29.0	28.7	28.4	28.2	27.9	27.7	27.5	27.3
82.5°	22.2	21.9	21.6	21.4	21.4	21.3	21.3	21.3
85°	12.7	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	8.8	8.9	8.9	8.9	8.9	8.9	8.9	8.9
90°	20.4	21.0	21.7	22.3	22.6	23.0	23.3	23.7
92.5°	22.4	23.5	24.7	25.3	25.5	25.8	26.0	26.3
95°	27.0	28.2	29.4	30.0	30.0	30.0	30.0	30.0
97.5°	28.3	29.6	31.0	31.8	32.0	32.2	32.3	32.5
100°	28.9	30.3	31.7	32.4	32.6	32.8	33.0	33.1
102.5°	43.2	38.9	34.5	32.5	32.8	33.1	33.4	33.8
105°	110.8	79.8	48.7	33.3	33.7	34.0	34.4	34.7
107.5°	271.4	248.6	225.8	202.7	179.4	155.9	132.5	109.1
110°	344.5	338.7	333.0	317.5	292.4	267.3	242.2	217.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.1	396.2	396.3	393.6	388.4	383.0	377.8	372.5
115°	456.7	458.5	460.2	461.4	462.1	462.8	463.5	464.2
117.5°	511.6	513.0	514.3	515.1	515.3	515.4	515.5	515.7
120°	547.5	549.0	550.4	551.1	551.1	551.1	551.1	551.1
122.5°	582.7	583.7	584.7	585.2	585.4	585.5	585.7	585.8
125°	632.3	632.7	633.0	633.4	633.7	634.1	634.4	634.8
127.5°	682.0	682.6	683.1	683.2	682.9	682.6	682.2	681.9
130°	712.0	712.7	713.4	713.6	713.2	712.9	712.5	712.2
132.5°	740.3	741.0	741.7	741.8	741.4	740.9	740.4	739.9
135°	783.5	784.0	784.5	784.5	784.0	783.5	782.9	782.4
137.5°	821.8	822.6	823.5	823.7	823.4	823.0	822.7	822.3
140°	846.2	846.9	847.6	847.8	847.4	847.1	846.7	846.4
142.5°	869.3	869.8	870.4	870.4	869.9	869.4	869.0	868.5
145°	901.5	901.9	902.2	902.4	902.4	902.4	902.4	902.4
147.5°	930.4	930.8	931.1	930.9	930.1	929.3	928.5	927.7
150°	948.1	948.5	948.8	948.8	948.2	947.7	947.2	946.6
152.5°	963.8	964.4	965.1	965.0	964.2	963.4	962.6	961.8
155°	985.5	986.3	987.2	987.1	986.1	985.0	984.0	982.9
157.5°	1004.3	1005.3	1006.4	1006.2	1004.9	1003.5	1002.2	1000.8
160°	1015.0	1016.1	1017.1	1017.0	1015.8	1014.6	1013.4	1012.2
162.5°	1024.8	1026.0	1027.1	1027.2	1026.1	1025.0	1024.0	1022.9
165°	1037.8	1039.3	1040.7	1040.8	1039.6	1038.2	1037.0	1035.8
167.5°	1047.9	1049.4	1050.8	1050.8	1049.4	1047.9	1046.5	1045.1
170°	1053.6	1055.0	1056.4	1056.4	1055.0	1053.6	1052.3	1050.9
172.5°	1057.4	1058.8	1060.3	1060.2	1058.6	1057.1	1055.5	1054.0
175°	1062.0	1063.2	1064.4	1064.3	1063.0	1061.6	1060.2	1058.7
177.5°	1063.7	1064.8	1065.9	1065.8	1064.4	1063.0	1061.6	1060.2
180°	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7	1062.7

(END OF REPORT)