

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: P332629-930

Luminaire Tested: **S124DIP-S1020D365U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332629-930
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: S124DIP-S1020D365U930-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

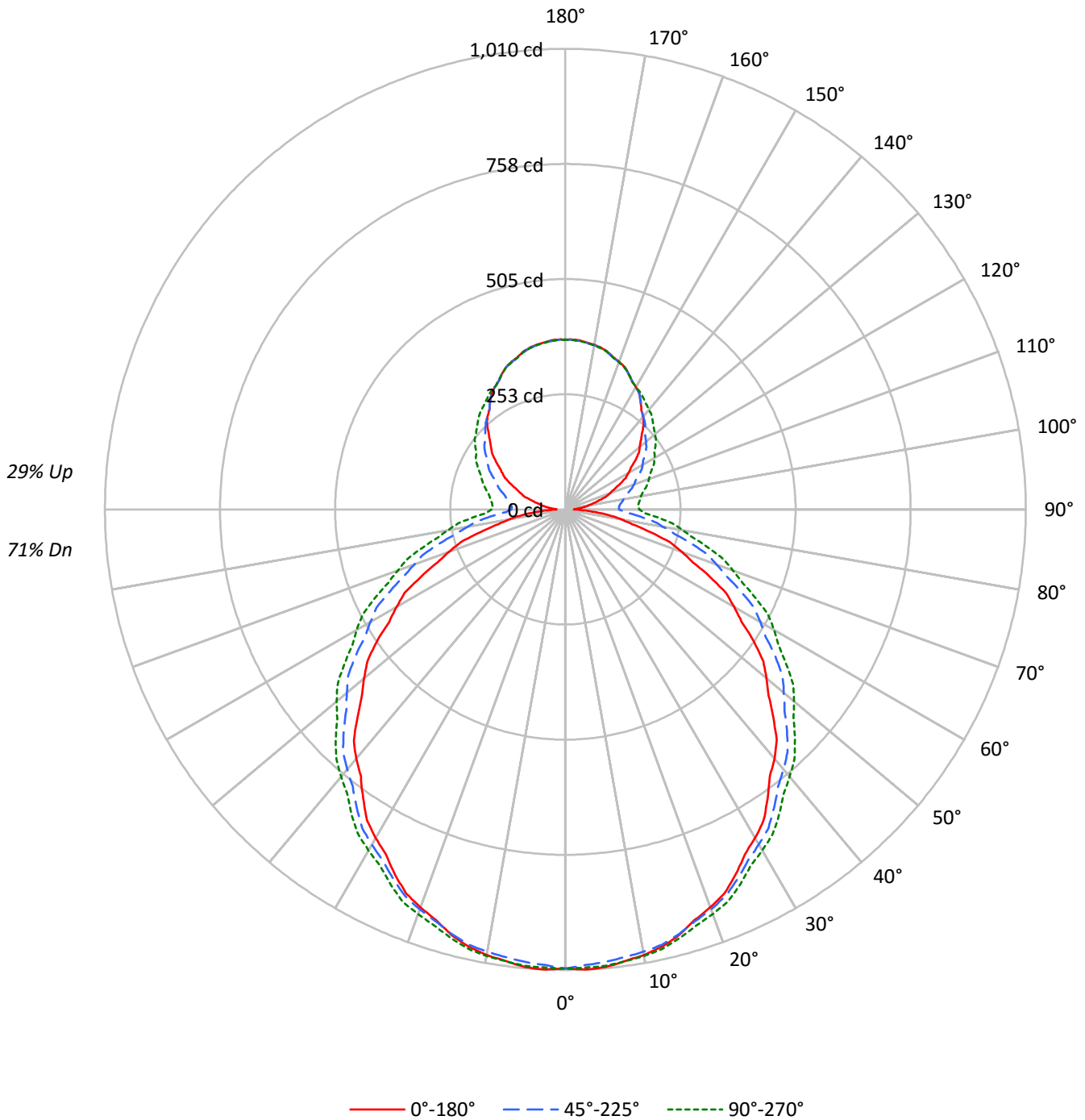
Lumens per Lamp: N/A
Luminaire Lumens: 4466.1 lumens
Efficiency: N/A
Efficacy: 102.7 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 43.5
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	50	30	10	0	
RCR																						
0	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75	75	75	75	71	
1	101	96	91	87	95	91	87	83	81	78	75	73	70	68	64	63	61	61	61	61	57	
2	91	83	76	70	86	79	72	67	70	65	61	63	59	56	56	53	50	50	50	50	46	
3	83	73	64	58	78	69	61	55	62	56	51	55	50	46	49	45	42	42	42	42	39	
4	76	64	55	49	71	61	53	47	55	48	43	49	44	39	44	39	36	36	36	36	33	
5	70	57	48	41	65	54	46	40	49	42	37	44	38	34	39	35	31	31	31	31	28	
6	64	51	42	36	60	49	40	35	44	37	32	39	34	30	35	31	27	27	27	27	24	
7	59	46	37	31	56	44	36	30	40	33	28	36	30	26	32	28	24	24	24	24	22	
8	55	42	34	28	52	40	32	27	36	30	25	33	27	23	30	25	21	21	21	21	19	
9	51	38	30	25	48	37	29	24	33	27	22	30	25	21	27	23	19	19	19	19	17	
10	48	35	27	22	45	34	26	22	31	24	20	28	23	19	25	21	17	17	17	17	16	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8127	8127	8127
5°	8151	7942	7965
10°	8102	7812	7807
15°	8029	7662	7620
20°	7920	7496	7438
25°	7797	7310	7239
30°	7663	7125	7034
35°	7511	6935	6855
40°	7390	6755	6667
45°	7210	6588	6507
50°	7059	6397	6337
55°	6902	6217	6138
60°	6657	5986	5956
65°	6389	5740	5734
70°	6066	5458	5474
75°	5612	5146	5239
80°	5110	4847	5007
85°	4474	4583	4872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.3	2.1
10°-20°	273.1	6.1
20°-30°	413.0	9.2
30°-40°	499.7	11.2
40°-50°	528.2	11.8
50°-60°	497.1	11.1
60°-70°	412.5	9.2
70°-80°	289.7	6.5
80°-90°	164.9	3.7
90°-100°	121.8	2.7
100°-110°	144.8	3.2
110°-120°	171.9	3.8
120°-130°	190.1	4.3
130°-140°	194.7	4.4
140°-150°	182.1	4.1
150°-160°	151.2	3.4
160°-170°	100.6	2.3
170°-180°	35.2	0.8
0°-30°	781.4	17.5
0°-40°	1281.1	28.7
0°-60°	2306.5	51.6
0°-90°	3173.6	71.1
90°-120°	438.5	9.8
90°-150°	1005.5	22.5
90°-180°	1292.0	28.9
0°-180°	4466.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1008	1004	996	1005	1004	96
15°	966	967	964	973	973	272
25°	884	890	894	906	907	407
35°	773	787	798	813	817	484
45°	645	666	688	706	712	498
55°	505	529	562	584	592	450
65°	349	386	424	451	461	346
75°	194	236	283	313	325	206
85°	60	107	158	190	203	64
90°	19	67	118	151	162	13
95°	32	72	120	150	161	31
105°	77	101	143	171	182	83
115°	132	144	178	202	210	131
125°	187	188	214	234	241	167
135°	238	240	248	265	271	185
145°	288	288	288	294	298	180
155°	328	328	328	329	328	151
165°	358	357	356	358	357	101
175°	372	371	370	372	370	35
180°	372	372	372	372	372	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1010.2	1009.7	1009.0	1008.4	1007.8	1006.7	1005.1	1003.6	1001.9	1000.3	1001.7
5°	1007.7	1007.0	1006.2	1005.5	1004.8	1003.5	1001.8	1000.0	998.3	996.5	998.5
7.5°	999.1	998.7	998.3	997.8	997.4	996.5	995.0	993.5	992.1	990.6	992.9
10°	992.0	991.7	991.5	991.2	991.0	990.2	989.0	987.7	986.4	985.2	987.5
12.5°	982.0	982.0	981.9	981.9	981.9	981.4	980.6	979.7	978.8	978.0	980.1
15°	966.0	966.3	966.5	966.8	967.0	966.8	966.0	965.3	964.5	963.8	966.0
17.5°	944.2	944.9	945.7	946.4	947.2	947.5	947.3	947.2	947.1	946.9	949.2
20°	928.9	929.6	930.3	931.1	931.9	932.4	932.6	932.9	933.1	933.4	935.9
22.5°	911.7	912.6	913.6	914.6	915.5	916.2	916.6	917.1	917.5	918.0	920.6
25°	883.8	885.3	886.7	888.3	889.7	890.9	891.6	892.4	893.2	893.9	896.7
27.5°	852.6	854.8	857.0	859.2	861.4	863.2	864.3	865.4	866.6	867.7	870.3
30°	831.9	833.9	835.9	837.9	839.9	841.8	843.5	845.3	847.0	848.8	851.6
32.5°	809.3	811.8	814.2	816.6	819.0	821.2	823.1	825.1	827.0	829.0	832.1
35°	773.3	776.3	779.3	782.3	785.3	788.1	790.6	793.0	795.6	798.1	801.6
37.5°	736.9	740.5	743.9	747.4	750.8	754.1	757.2	760.3	763.4	766.5	770.1
40°	713.5	716.8	720.1	723.3	726.6	729.9	733.4	736.9	740.5	744.0	747.7
42.5°	686.5	690.2	693.8	697.5	701.1	705.0	709.1	713.2	717.3	721.5	725.6
45°	644.7	649.5	654.3	659.1	663.8	668.5	673.4	678.1	682.8	687.6	691.9
47.5°	604.9	609.8	614.7	619.6	624.5	629.7	635.2	640.7	646.3	651.8	656.2
50°	576.0	581.6	587.0	592.6	598.0	603.6	609.1	614.6	620.1	625.6	630.6
52.5°	547.1	552.7	558.2	563.7	569.2	575.1	581.4	587.7	594.0	600.4	605.4
55°	505.0	510.3	515.5	520.8	526.0	532.4	540.0	547.5	555.0	562.5	567.5
57.5°	457.9	464.4	470.9	477.4	484.0	490.9	498.4	505.9	513.3	520.8	526.8
60°	427.2	433.7	440.3	446.8	453.3	460.6	469.0	477.2	485.4	493.7	499.5
62.5°	397.5	404.6	411.7	418.8	425.9	433.6	441.9	450.1	458.4	466.7	472.5
65°	349.4	357.4	365.5	373.5	381.5	389.8	398.3	406.8	415.3	423.9	430.1
67.5°	303.2	311.8	320.2	328.8	337.3	346.1	355.2	364.4	373.5	382.6	389.0
70°	271.7	280.2	288.7	297.2	305.7	314.8	324.2	333.8	343.3	352.9	359.6
72.5°	241.0	249.7	258.4	267.2	275.9	285.3	295.4	305.5	315.7	325.8	332.3
75°	193.9	203.2	212.4	221.7	231.0	240.8	251.4	261.9	272.4	282.9	289.9
77.5°	149.9	159.7	169.6	179.4	189.2	199.6	210.7	221.7	232.7	243.7	250.8
80°	122.9	132.9	142.9	153.0	163.0	173.5	184.5	195.5	206.5	217.5	225.1
82.5°	95.8	106.2	116.7	127.1	137.5	148.2	159.2	170.2	181.3	192.3	200.0
85°	59.8	70.3	80.8	91.3	101.8	112.8	124.0	135.3	146.5	157.8	165.3
87.5°	33.5	43.9	54.3	64.7	75.0	85.7	96.8	107.9	119.0	130.0	137.4
90°	18.9	29.6	40.4	51.0	61.8	72.8	84.1	95.4	106.6	118.0	125.6
92.5°	23.3	33.1	43.0	52.7	62.6	73.1	84.2	95.3	106.5	117.6	124.9
95°	32.0	40.8	49.7	58.5	67.3	77.1	87.8	98.5	109.3	119.9	126.9
97.5°	43.5	51.0	58.6	66.2	73.8	82.9	93.6	104.4	115.0	125.7	132.5
100°	52.7	59.5	66.3	73.1	79.8	88.4	98.7	109.1	119.4	129.7	136.6
102.5°	63.3	69.1	74.9	80.8	86.6	94.6	104.6	114.7	124.8	134.9	141.7
105°	77.3	82.3	87.4	92.5	97.6	104.8	114.4	123.9	133.5	143.0	149.4
107.5°	94.0	98.2	102.4	106.6	110.8	117.2	126.0	134.9	143.7	152.5	158.8
110°	104.7	108.3	111.9	115.6	119.2	125.4	134.1	142.8	151.5	160.2	165.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	115.8	118.9	122.1	125.1	128.2	134.0	142.2	150.5	158.7	167.0	172.5
115°	132.4	134.6	136.9	139.2	141.4	146.4	154.3	162.2	170.2	178.0	183.4
117.5°	149.1	150.5	151.9	153.3	154.7	159.1	166.5	173.8	181.2	188.6	193.6
120°	159.5	160.5	161.5	162.5	163.5	167.5	174.6	181.7	188.7	195.8	200.6
122.5°	171.2	171.5	171.7	172.0	172.3	175.8	182.5	189.3	196.1	202.8	207.7
125°	187.4	187.2	186.9	186.7	186.5	189.4	195.6	201.8	208.0	214.2	218.8
127.5°	202.9	202.9	202.8	202.8	202.7	205.0	209.8	214.4	219.2	223.9	228.3
130°	213.1	213.0	213.0	213.0	212.9	214.8	218.8	222.9	226.9	230.9	235.3
132.5°	224.5	224.3	224.2	224.0	224.0	225.5	228.6	231.8	235.0	238.1	242.3
135°	238.2	238.6	239.0	239.4	239.8	240.8	242.6	244.3	246.1	247.9	251.7
137.5°	254.5	254.4	254.3	254.2	254.2	254.6	255.6	256.5	257.5	258.4	262.0
140°	265.3	265.1	265.1	264.9	264.8	264.9	265.1	265.4	265.6	265.9	269.0
142.5°	274.3	274.3	274.4	274.5	274.6	274.5	274.3	274.2	273.9	273.8	276.5
145°	287.8	287.8	287.8	287.8	287.8	287.9	287.9	288.0	288.0	288.1	289.5
147.5°	301.4	301.4	301.5	301.6	301.6	301.6	301.6	301.5	301.5	301.4	301.6
150°	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7	309.7
152.5°	316.6	316.7	316.8	316.9	317.1	317.1	317.2	317.2	317.2	317.3	317.5
155°	328.4	328.4	328.4	328.4	328.4	328.4	328.3	328.2	328.2	328.2	328.4
157.5°	338.6	338.4	338.3	338.3	338.1	338.0	338.0	338.0	338.0	338.0	338.2
160°	344.5	344.5	344.5	344.4	344.3	344.2	344.2	344.1	344.1	344.0	344.2
162.5°	350.1	349.9	349.8	349.6	349.4	349.4	349.3	349.2	349.1	349.0	349.4
165°	357.5	357.3	357.2	356.9	356.8	356.6	356.4	356.4	356.2	356.1	356.4
167.5°	363.2	363.0	362.7	362.4	362.2	362.0	362.1	362.1	362.1	362.1	362.5
170°	366.5	366.2	365.8	365.5	365.2	365.1	365.1	365.2	365.3	365.3	365.7
172.5°	368.8	368.5	368.2	367.9	367.7	367.5	367.5	367.6	367.6	367.6	368.0
175°	371.9	371.6	371.3	371.0	370.6	370.5	370.4	370.3	370.3	370.2	370.6
177.5°	373.0	372.8	372.4	372.2	371.9	371.9	371.9	371.9	371.9	371.9	372.2
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7	1006.7
2.5°	1003.1	1004.5	1005.9	1006.5	1006.3	1006.1	1005.9	1005.8
5°	1000.5	1002.5	1004.5	1005.3	1005.1	1004.9	1004.6	1004.4
7.5°	995.2	997.4	999.6	1000.6	1000.4	1000.1	999.9	999.6
10°	989.7	992.0	994.3	995.2	995.0	994.7	994.5	994.3
12.5°	982.1	984.1	986.2	987.2	987.2	987.1	987.1	987.0
15°	968.3	970.5	972.8	973.8	973.5	973.3	973.1	972.8
17.5°	951.5	953.8	956.1	957.2	956.9	956.8	956.5	956.3
20°	938.3	940.9	943.4	944.6	944.6	944.6	944.6	944.6
22.5°	923.0	925.5	928.1	929.5	929.9	930.3	930.7	931.1
25°	899.4	902.1	904.9	906.4	906.7	906.9	907.2	907.4
27.5°	872.9	875.4	878.0	879.4	879.7	880.0	880.3	880.6
30°	854.4	857.0	859.8	861.4	861.9	862.4	863.0	863.5
32.5°	835.3	838.5	841.6	843.4	843.9	844.4	844.9	845.5
35°	805.1	808.6	812.1	814.2	815.0	815.7	816.5	817.3
37.5°	773.6	777.2	780.7	782.9	783.7	784.6	785.3	786.1
40°	751.5	755.2	759.0	761.4	762.4	763.4	764.4	765.4
42.5°	729.8	733.9	738.1	740.5	741.4	742.2	743.0	743.7
45°	696.1	700.4	704.7	707.4	708.7	709.9	711.2	712.4
47.5°	660.6	665.0	669.4	672.4	673.8	675.4	676.9	678.4
50°	635.6	640.7	645.6	648.9	650.4	651.9	653.4	654.9
52.5°	610.4	615.4	620.4	623.6	625.2	626.6	628.2	629.7
55°	572.5	577.6	582.5	585.8	587.3	588.8	590.3	591.8
57.5°	532.7	538.7	544.6	548.3	549.7	551.1	552.5	553.9
60°	505.2	511.0	516.7	520.7	522.7	524.6	526.7	528.6
62.5°	478.2	484.0	489.8	493.6	495.6	497.6	499.6	501.7
65°	436.3	442.6	448.9	453.1	455.0	457.1	459.0	461.1
67.5°	395.3	401.7	408.1	412.2	414.2	416.1	418.1	420.0
70°	366.3	373.1	379.8	384.2	385.9	387.7	389.4	391.2
72.5°	338.9	345.4	352.0	356.3	358.2	360.2	362.2	364.1
75°	296.9	303.9	311.0	315.6	317.9	320.2	322.4	324.7
77.5°	258.0	265.1	272.1	277.0	279.3	281.8	284.1	286.6
80°	232.6	240.1	247.6	252.3	254.4	256.4	258.4	260.4
82.5°	207.7	215.5	223.1	228.1	230.3	232.5	234.7	236.9
85°	172.8	180.3	187.8	192.9	195.4	197.9	200.4	202.9
87.5°	144.7	152.1	159.4	164.1	166.4	168.6	170.8	173.1
90°	133.2	140.9	148.5	153.4	155.6	157.7	159.8	161.9
92.5°	132.2	139.5	146.8	151.5	153.5	155.6	157.7	159.8
95°	133.9	140.8	147.8	152.4	154.7	156.9	159.1	161.4
97.5°	139.3	146.1	152.9	157.4	159.5	161.7	163.8	166.0
100°	143.5	150.4	157.4	161.7	163.4	165.2	166.9	168.7
102.5°	148.4	155.2	161.9	166.2	168.3	170.2	172.3	174.3
105°	155.9	162.3	168.8	173.1	175.3	177.5	179.7	181.9
107.5°	165.2	171.5	177.9	182.0	183.7	185.5	187.3	189.1
110°	171.5	177.1	182.7	186.6	188.8	191.0	193.2	195.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	178.1	183.6	189.1	192.9	194.9	197.0	199.0	201.1
115°	188.9	194.4	199.8	203.3	205.0	206.8	208.5	210.1
117.5°	198.6	203.6	208.6	212.0	213.9	215.7	217.6	219.5
120°	205.2	209.9	214.6	218.0	220.1	222.3	224.4	226.6
122.5°	212.5	217.2	222.0	225.2	226.8	228.4	229.9	231.5
125°	223.5	228.1	232.8	235.8	237.1	238.5	239.9	241.2
127.5°	232.6	237.0	241.4	244.4	246.0	247.6	249.2	250.8
130°	239.6	244.0	248.4	251.2	252.5	253.7	254.9	256.2
132.5°	246.5	250.6	254.9	257.6	259.0	260.4	261.8	263.3
135°	255.6	259.4	263.3	266.0	267.3	268.6	269.9	271.2
137.5°	265.4	268.9	272.4	274.8	276.1	277.4	278.7	280.0
140°	272.2	275.4	278.7	280.8	282.0	283.2	284.4	285.6
142.5°	279.4	282.3	285.1	287.1	288.1	289.1	290.2	291.2
145°	291.0	292.4	293.8	295.0	295.8	296.6	297.4	298.2
147.5°	301.7	301.8	302.0	302.5	303.2	303.9	304.7	305.4
150°	309.7	309.7	309.7	309.7	309.7	309.6	309.5	309.4
152.5°	317.6	317.8	318.0	317.9	317.7	317.6	317.4	317.2
155°	328.6	328.9	329.1	329.1	328.9	328.6	328.4	328.2
157.5°	338.3	338.6	338.8	338.8	338.5	338.3	338.1	337.9
160°	344.4	344.5	344.8	344.7	344.4	344.1	343.7	343.4
162.5°	349.8	350.1	350.4	350.4	350.2	349.8	349.5	349.2
165°	356.9	357.3	357.6	357.7	357.4	357.2	356.9	356.7
167.5°	362.9	363.2	363.6	363.6	363.2	362.8	362.4	362.0
170°	366.1	366.5	366.9	366.8	366.4	365.9	365.5	365.0
172.5°	368.5	368.9	369.3	369.3	368.9	368.4	368.0	367.5
175°	371.1	371.5	372.0	372.0	371.5	371.1	370.6	370.2
177.5°	372.5	372.9	373.2	373.2	372.8	372.4	372.0	371.6
180°	372.5	372.5	372.5	372.5	372.5	372.5	372.5	372.5

(END OF REPORT)