

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: P332666-930

Luminaire Tested: **S124DIP-S1020D1205U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332666-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S1020D1205U930-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6941.2 lumens
Efficiency: N/A
Efficacy: 106.1 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

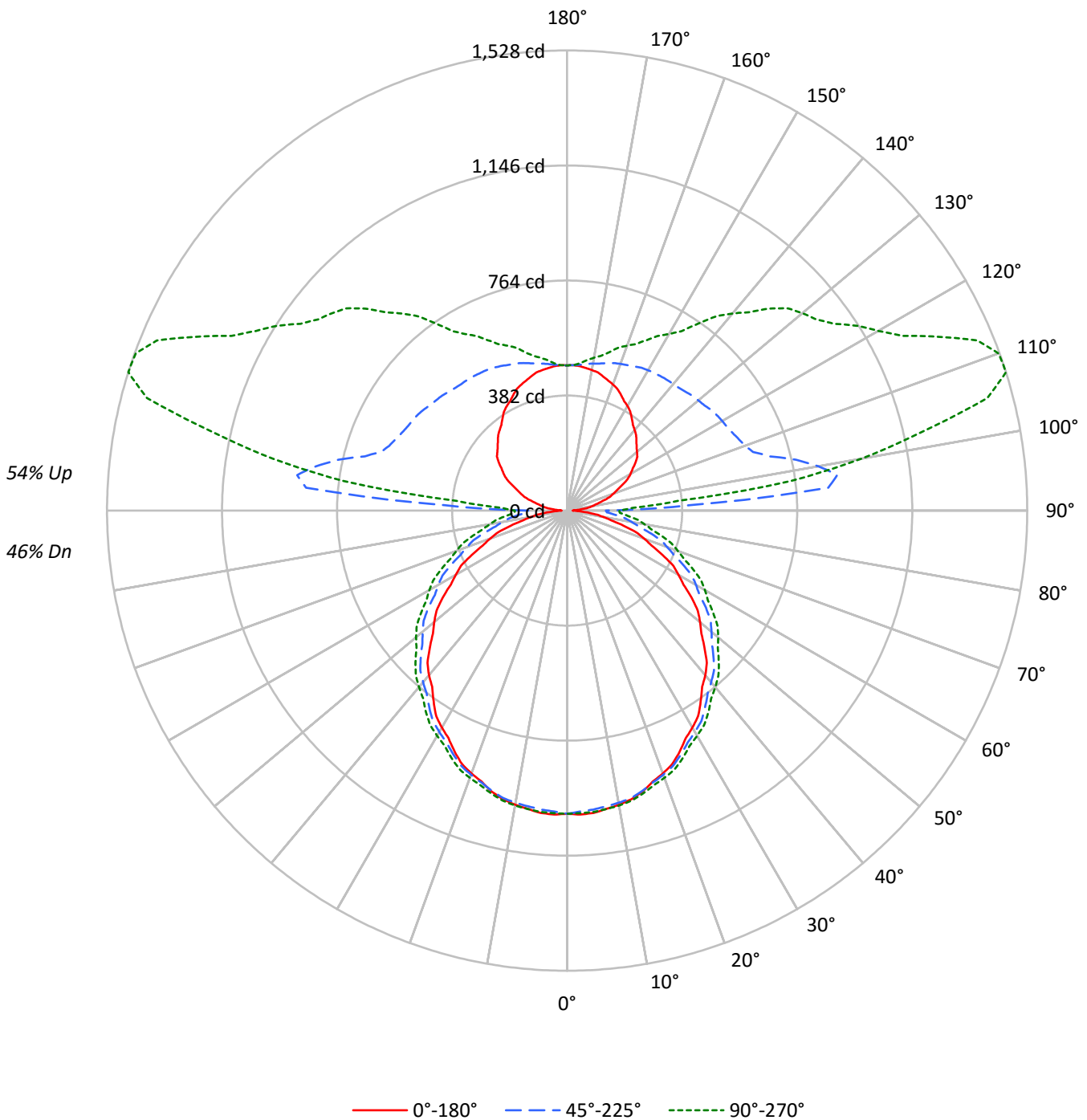
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	81	81	81		66	66	66		52	52	52	46
1	96	91	87	83	88	84	80	77	70	67	65		57	55	53		45	43	42	37
2	87	79	73	67	79	73	67	62	60	56	53		49	46	44		39	37	35	30
3	79	69	62	55	72	64	57	51	53	48	44		43	39	36		34	31	29	25
4	72	61	53	47	66	56	49	43	47	41	37		38	34	31		30	27	25	21
5	66	54	46	40	60	50	42	37	42	36	32		34	30	27		27	24	21	18
6	61	48	40	34	55	45	37	32	37	32	27		31	26	23		24	21	19	16
7	56	44	35	30	51	40	33	28	34	28	24		28	24	20		22	19	17	14
8	52	39	32	26	47	36	29	25	31	25	21		25	21	18		20	17	15	12
9	48	36	28	23	44	33	26	22	28	23	19		23	19	16		19	16	13	11
10	45	33	26	21	41	31	24	19	26	21	17		22	17	14		17	14	12	10

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	1.4
10°-20°	273.1	3.9
20°-30°	413.0	5.9
30°-40°	499.7	7.2
40°-50°	528.2	7.6
50°-60°	497.1	7.2
60°-70°	412.5	5.9
70°-80°	289.7	4.2
80°-90°	166.4	2.4
90°-100°	445.5	6.4
100°-110°	796.9	11.5
110°-120°	697.6	10.1
120°-130°	573.4	8.3
130°-140°	467.2	6.7
140°-150°	350.3	5.0
150°-160°	244.6	3.5
160°-170°	143.8	2.1
170°-180°	46.8	0.7
0°-30°	781.4	11.3
0°-40°	1281.1	18.5
0°-60°	2306.5	33.2
0°-90°	3175.1	45.7
90°-120°	1940.0	27.9
90°-150°	3330.9	48.0
90°-180°	3766.0	54.3
0°-180°	6941.2	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	71	129	162	173	14
95°	46	151	870	510	370	47
105°	121	194	696	1440	1444	130
115°	202	263	607	1142	1366	201
125°	276	328	583	958	1081	246
135°	325	387	557	832	948	252
145°	373	426	544	685	757	234
155°	424	457	529	599	624	195
165°	461	476	507	537	545	130
175°	481	482	486	493	491	46
180°	482	482	482	482	482	



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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°	33.6	44.2	55.0	65.4	75.7	86.3	98.5	109.4	120.8	132.2	139.3
90°	19.0	30.9	43.8	54.7	65.7	76.1	92.5	103.3	116.0	128.7	134.9
92.5°	28.0	41.9	59.8	80.4	103.2	132.8	191.8	276.0	358.4	406.7	363.5
95°	45.9	57.0	74.8	95.3	126.4	175.4	268.1	433.7	670.4	870.2	898.7
97.5°	69.4	76.5	91.7	110.2	136.9	178.9	252.5	390.9	626.2	904.3	1095.0
100°	84.4	90.9	104.0	122.0	146.4	184.9	250.5	367.4	570.5	847.3	1096.7
102.5°	99.5	106.8	118.4	134.7	157.7	194.1	254.2	358.0	532.0	778.4	1035.1
105°	121.0	128.8	138.6	155.0	177.0	211.7	266.4	354.2	496.2	695.9	924.8
107.5°	146.9	153.0	161.8	178.0	198.4	232.0	282.4	362.8	484.9	646.9	834.8
110°	163.5	168.8	177.1	191.9	212.5	244.3	294.6	369.7	482.7	628.9	789.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	179.2	184.2	192.8	206.5	226.7	258.0	306.6	377.4	483.2	617.6	760.8
115°	201.9	207.0	215.9	227.6	247.9	278.6	324.5	389.4	485.5	607.2	732.1
117.5°	226.7	230.7	237.9	249.7	267.9	298.9	342.3	402.1	488.5	599.5	715.2
120°	242.5	245.2	252.5	263.7	280.5	311.0	354.3	410.8	491.1	595.0	705.2
122.5°	257.6	259.7	266.4	276.3	294.1	323.3	366.2	419.3	493.8	589.7	694.6
125°	276.4	280.0	285.4	295.5	313.3	342.8	383.2	433.0	499.0	582.9	678.7
127.5°	293.8	296.6	303.1	314.9	333.4	362.3	400.1	444.9	501.8	574.1	658.2
130°	302.7	306.3	313.6	327.6	345.4	374.7	410.9	451.8	504.2	568.8	645.3
132.5°	312.6	315.4	325.0	338.2	357.4	384.9	420.3	459.7	506.7	564.4	634.0
135°	325.3	329.1	338.6	354.7	374.5	400.1	433.1	469.0	509.6	556.8	615.7
137.5°	339.2	342.5	352.7	367.8	388.2	412.0	442.0	474.7	510.0	551.4	600.4
140°	349.0	351.6	361.7	377.6	397.3	420.0	448.7	479.2	511.7	548.0	591.9
142.5°	358.7	361.5	371.1	386.4	405.5	427.4	454.9	482.7	513.3	546.2	585.2
145°	373.4	376.0	385.2	398.3	416.0	436.8	461.4	487.0	514.5	543.8	575.6
147.5°	390.3	391.0	399.1	412.5	427.2	445.8	469.0	491.3	515.4	540.4	567.3
150°	400.9	401.6	409.0	420.0	434.0	451.9	472.7	493.6	515.4	538.1	561.8
152.5°	409.9	410.0	417.5	428.1	440.8	457.2	475.8	495.1	513.9	534.3	555.7
155°	423.5	424.4	430.1	439.6	450.0	464.2	480.3	496.4	511.6	528.6	546.7
157.5°	436.9	436.9	442.2	449.6	458.7	469.9	483.6	496.4	509.2	522.8	537.4
160°	445.2	445.2	449.1	455.7	463.3	473.7	485.0	496.4	506.9	518.2	530.5
162.5°	452.8	452.1	455.1	461.0	467.8	476.0	486.6	496.4	504.6	513.6	524.5
165°	461.4	461.4	463.3	468.0	472.7	478.4	487.0	494.6	500.2	506.9	514.5
167.5°	469.9	469.0	469.9	473.5	476.1	480.5	486.7	492.3	495.7	500.0	505.3
170°	473.7	472.7	473.7	476.5	478.4	481.3	486.0	490.7	492.6	495.5	499.3
172.5°	477.4	476.5	476.7	478.8	480.0	482.0	485.3	489.3	489.6	490.9	494.0
175°	481.3	480.3	480.3	481.3	482.2	482.2	484.1	487.0	486.0	486.0	487.9
177.5°	483.0	482.2	481.4	482.2	482.2	482.2	483.0	484.5	483.0	483.0	483.7
180°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2



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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°	146.7	154.1	161.6	166.3	168.7	171.1	173.1	175.3
90°	143.2	151.4	159.6	164.2	167.2	170.2	171.2	173.2
92.5°	306.4	267.4	245.8	231.5	222.3	219.2	217.9	220.0
95°	813.6	673.5	553.3	465.9	421.8	394.7	379.8	369.8
97.5°	1141.4	1093.4	1007.3	912.7	846.9	792.0	765.7	748.2
100°	1241.7	1267.5	1227.8	1162.0	1081.2	1025.2	998.6	992.7
102.5°	1231.5	1332.0	1352.1	1327.1	1278.6	1238.6	1210.6	1206.5
105°	1148.0	1318.2	1418.2	1461.2	1465.1	1459.5	1448.2	1444.5
107.5°	1033.1	1213.7	1351.9	1440.5	1489.1	1512.5	1523.7	1528.0
110°	963.4	1133.1	1276.3	1384.4	1453.6	1495.4	1514.5	1525.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	910.8	1061.4	1196.7	1304.6	1383.0	1433.1	1459.1	1474.9
115°	856.0	978.0	1094.4	1189.0	1265.6	1324.2	1356.3	1365.5
117.5°	825.2	926.8	1019.2	1099.9	1165.7	1215.5	1248.2	1256.1
120°	809.6	902.8	983.6	1054.3	1110.4	1154.0	1180.6	1193.1
122.5°	796.1	886.1	960.1	1022.4	1069.9	1107.3	1129.9	1142.2
125°	774.4	860.5	930.7	985.9	1025.3	1054.3	1073.8	1081.0
127.5°	748.1	830.5	900.2	952.8	992.5	1018.7	1035.6	1042.9
130°	728.5	807.8	876.8	930.0	970.3	995.5	1012.2	1019.4
132.5°	708.6	783.2	850.4	903.5	943.1	971.3	987.2	994.4
135°	679.5	745.0	806.8	857.0	896.3	924.4	941.0	948.2
137.5°	653.6	709.4	761.7	807.1	843.8	871.1	884.8	893.0
140°	638.8	686.6	732.5	774.5	808.9	831.0	845.5	854.4
142.5°	625.6	667.6	707.0	743.5	773.9	794.3	807.1	813.4
145°	607.4	641.2	671.1	698.9	723.5	740.6	751.1	756.8
147.5°	592.5	618.3	641.2	662.6	680.8	695.5	703.4	706.0
150°	584.6	606.3	625.3	642.3	657.5	669.8	675.5	676.5
152.5°	576.2	594.9	612.4	626.4	639.3	649.3	652.7	653.7
155°	563.7	578.9	593.0	604.5	613.9	621.5	624.4	624.4
157.5°	550.2	563.0	574.9	584.0	591.2	596.9	598.6	598.6
160°	541.9	552.3	562.7	570.3	576.0	581.7	582.6	582.6
162.5°	533.5	542.5	550.7	557.4	561.6	567.3	568.3	567.4
165°	522.0	527.7	534.3	539.1	542.8	546.7	545.7	544.8
167.5°	510.9	515.2	520.5	523.3	525.2	527.7	527.5	526.8
170°	504.0	506.9	510.6	513.5	515.4	516.3	515.4	515.4
172.5°	497.9	500.0	502.3	504.3	505.5	506.5	505.5	504.0
175°	489.8	490.7	492.6	492.6	492.6	494.6	492.6	490.7
177.5°	484.5	485.3	485.3	486.0	485.3	486.0	484.5	483.0
180°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2

(END OF REPORT)