

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: P332666-927

Luminaire Tested: **S124DIP-S1020D1205U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332666-927
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-S1020D1205U927-4F0-1E-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: 6744.4 lumens
Efficiency: N/A
Efficacy: 103.1 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

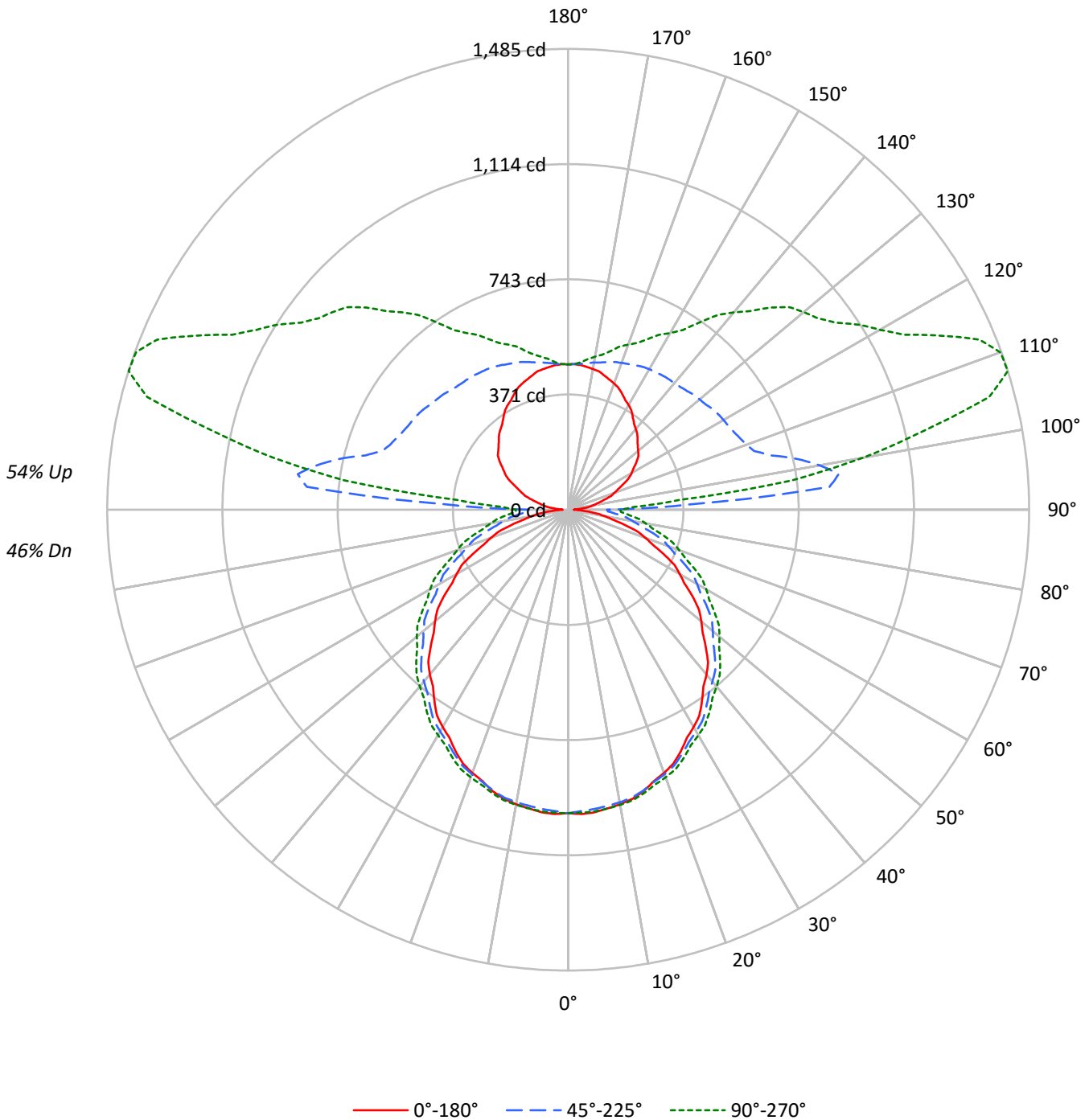
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			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°	7896	7896	7896
5°	7920	7717	7739
10°	7872	7591	7585
15°	7802	7444	7404
20°	7695	7284	7227
25°	7575	7102	7034
30°	7445	6922	6835
35°	7299	6739	6660
40°	7181	6564	6478
45°	7007	6402	6322
50°	6859	6215	6158
55°	6707	6040	5964
60°	6469	5816	5788
65°	6208	5578	5571
70°	5894	5303	5319
75°	5453	5001	5089
80°	4964	4711	4865
85°	4347	4456	4735



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.6	1.4
10°-20°	265.4	3.9
20°-30°	401.3	5.9
30°-40°	485.5	7.2
40°-50°	513.3	7.6
50°-60°	483.1	7.2
60°-70°	400.8	5.9
70°-80°	281.5	4.2
80°-90°	161.7	2.4
90°-100°	432.9	6.4
100°-110°	774.3	11.5
110°-120°	677.8	10.1
120°-130°	557.2	8.3
130°-140°	453.9	6.7
140°-150°	340.4	5.0
150°-160°	237.6	3.5
160°-170°	139.8	2.1
170°-180°	45.5	0.7
0°-30°	759.3	11.3
0°-40°	1244.8	18.5
0°-60°	2241.1	33.2
0°-90°	3085.1	45.7
90°-120°	1885.0	27.9
90°-150°	3236.5	48.0
90°-180°	3659.0	54.3
0°-180°	6744.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	979	976	968	976	976	93
15°	939	940	936	946	945	264
25°	859	865	868	880	882	395
35°	751	764	776	790	794	470
45°	626	647	668	686	692	484
55°	491	514	546	568	575	437
65°	340	375	412	438	448	336
75°	188	229	275	304	315	200
85°	58	104	153	185	197	62
90°	18	69	125	157	168	13
95°	45	147	846	495	359	45
105°	118	189	676	1399	1404	126
115°	196	256	590	1109	1327	195
125°	268	319	566	931	1050	239
135°	316	376	541	808	921	245
145°	363	414	528	666	735	228
155°	412	444	514	582	607	190
165°	448	462	492	522	529	127
175°	468	469	472	479	477	44
180°	469	469	469	469	469	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	981.6	981.0	980.4	979.9	979.2	978.2	976.6	975.1	973.5	971.9	973.3
5°	979.1	978.4	977.7	977.0	976.3	975.0	973.4	971.6	969.9	968.2	970.2
7.5°	970.8	970.4	969.9	969.6	969.1	968.2	966.8	965.4	963.9	962.5	964.7
10°	963.8	963.6	963.4	963.1	962.9	962.1	960.9	959.7	958.5	957.3	959.5
12.5°	954.2	954.2	954.1	954.0	954.0	953.5	952.8	951.9	951.1	950.2	952.3
15°	938.7	938.9	939.1	939.4	939.6	939.4	938.7	937.9	937.2	936.4	938.7
17.5°	917.4	918.1	918.9	919.6	920.4	920.6	920.4	920.4	920.2	920.0	922.3
20°	902.5	903.2	904.0	904.7	905.5	905.9	906.2	906.4	906.7	906.9	909.3
22.5°	885.8	886.8	887.7	888.7	889.5	890.3	890.7	891.1	891.5	892.0	894.5
25°	858.7	860.2	861.6	863.1	864.5	865.6	866.3	867.1	867.8	868.5	871.2
27.5°	828.5	830.6	832.7	834.9	837.0	838.7	839.8	840.9	842.0	843.1	845.7
30°	808.3	810.2	812.2	814.1	816.1	817.9	819.6	821.3	823.0	824.7	827.4
32.5°	786.4	788.8	791.1	793.4	795.7	797.9	799.8	801.7	803.6	805.5	808.5
35°	751.4	754.3	757.2	760.1	763.0	765.7	768.2	770.6	773.0	775.5	778.9
37.5°	716.1	719.5	722.8	726.2	729.5	732.7	735.7	738.7	741.8	744.8	748.2
40°	693.3	696.5	699.7	702.8	706.0	709.2	712.6	716.1	719.5	722.9	726.5
42.5°	667.0	670.6	674.1	677.7	681.2	685.0	689.0	693.0	697.0	701.0	705.0
45°	626.5	631.1	635.7	640.4	645.0	649.6	654.3	658.9	663.5	668.1	672.2
47.5°	587.7	592.5	597.2	602.1	606.8	611.9	617.2	622.6	628.0	633.3	637.5
50°	559.7	565.1	570.4	575.8	581.1	586.5	591.8	597.1	602.5	607.8	612.8
52.5°	531.6	537.0	542.3	547.7	553.1	558.8	564.9	571.1	577.2	583.4	588.2
55°	490.7	495.8	500.9	506.0	511.1	517.3	524.7	532.0	539.2	546.5	551.4
57.5°	444.9	451.2	457.6	463.9	470.2	477.0	484.3	491.5	498.8	506.0	511.8
60°	415.1	421.4	427.8	434.1	440.5	447.6	455.7	463.7	471.7	479.7	485.3
62.5°	386.2	393.1	400.1	406.9	413.8	421.3	429.4	437.4	445.4	453.4	459.1
65°	339.5	347.3	355.1	362.9	370.7	378.7	387.0	395.3	403.5	411.9	417.9
67.5°	294.6	302.9	311.2	319.5	327.7	336.3	345.2	354.0	362.9	371.8	378.0
70°	264.0	272.3	280.5	288.8	297.1	305.9	315.1	324.3	333.6	342.9	349.4
72.5°	234.2	242.6	251.1	259.6	268.1	277.2	287.0	296.8	306.7	316.6	322.9
75°	188.4	197.4	206.4	215.4	224.4	234.0	244.2	254.4	264.7	274.9	281.7
77.5°	145.7	155.2	164.8	174.3	183.9	193.9	204.7	215.4	226.1	236.8	243.7
80°	119.4	129.1	138.9	148.6	158.4	168.6	179.3	190.0	200.7	211.4	218.7
82.5°	93.1	103.2	113.4	123.5	133.6	144.0	154.7	165.4	176.2	186.9	194.3
85°	58.1	68.3	78.5	88.7	98.9	109.6	120.5	131.4	142.4	153.4	160.7
87.5°	32.6	42.9	53.4	63.5	73.6	83.9	95.7	106.3	117.4	128.4	135.3
90°	18.5	30.0	42.5	53.2	63.8	73.9	89.9	100.4	112.7	125.0	131.1
92.5°	27.2	40.7	58.1	78.1	100.3	129.0	186.3	268.2	348.2	395.1	353.2
95°	44.6	55.4	72.6	92.6	122.8	170.4	260.5	421.4	651.4	845.5	873.2
97.5°	67.4	74.3	89.1	107.1	133.0	173.8	245.3	379.9	608.5	878.7	1064.0
100°	82.0	88.3	101.1	118.5	142.3	179.7	243.4	357.0	554.3	823.3	1065.6
102.5°	96.7	103.8	115.0	130.9	153.2	188.6	247.0	347.8	516.9	756.4	1005.8
105°	117.6	125.2	134.7	150.6	172.0	205.7	258.8	344.2	482.1	676.1	898.6
107.5°	142.8	148.6	157.2	172.9	192.7	225.4	274.4	352.5	471.1	628.5	811.1
110°	158.8	164.1	172.1	186.5	206.5	237.3	286.3	359.3	469.1	611.1	766.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	174.1	179.0	187.4	200.7	220.2	250.7	297.9	366.7	469.5	600.1	739.3
115°	196.2	201.1	209.8	221.2	240.8	270.7	315.3	378.3	471.7	590.0	711.3
117.5°	220.3	224.2	231.2	242.6	260.3	290.4	332.6	390.7	474.7	582.5	694.9
120°	235.6	238.2	245.3	256.2	272.6	302.2	344.3	399.2	477.1	578.1	685.2
122.5°	250.3	252.3	258.9	268.5	285.7	314.2	355.8	407.4	479.8	573.0	674.9
125°	268.5	272.0	277.3	287.2	304.4	333.1	372.3	420.7	484.8	566.4	659.4
127.5°	285.5	288.2	294.5	305.9	323.9	352.0	388.8	432.3	487.6	557.8	639.5
130°	294.1	297.6	304.8	318.3	335.6	364.1	399.3	439.0	489.9	552.7	627.0
132.5°	303.7	306.4	315.8	328.6	347.3	374.0	408.4	446.6	492.3	548.4	616.0
135°	316.1	319.8	329.0	344.6	363.9	388.7	420.8	455.7	495.1	541.0	598.3
137.5°	329.5	332.8	342.7	357.4	377.2	400.3	429.4	461.2	495.5	535.8	583.4
140°	339.1	341.6	351.5	366.9	386.0	408.1	435.9	465.6	497.2	532.4	575.1
142.5°	348.6	351.3	360.6	375.4	394.0	415.3	442.0	469.1	498.8	530.7	568.6
145°	362.8	365.4	374.3	387.0	404.3	424.4	448.3	473.2	499.9	528.4	559.3
147.5°	379.2	379.9	387.8	400.8	415.1	433.2	455.7	477.4	500.7	525.1	551.2
150°	389.5	390.2	397.4	408.1	421.7	439.1	459.3	479.6	500.7	522.8	545.9
152.5°	398.2	398.4	405.7	416.0	428.3	444.3	462.3	481.1	499.3	519.2	540.0
155°	411.5	412.4	417.9	427.1	437.3	451.1	466.7	482.4	497.1	513.7	531.2
157.5°	424.5	424.5	429.7	436.9	445.7	456.6	469.8	482.4	494.7	507.9	522.1
160°	432.6	432.6	436.3	442.8	450.1	460.3	471.3	482.4	492.5	503.5	515.5
162.5°	440.0	439.3	442.2	447.9	454.6	462.5	472.8	482.4	490.3	499.1	509.6
165°	448.3	448.3	450.1	454.7	459.3	464.9	473.2	480.5	486.0	492.5	499.9
167.5°	456.6	455.7	456.6	460.1	462.6	466.9	472.9	478.3	481.6	485.8	491.0
170°	460.3	459.3	460.3	463.0	464.9	467.6	472.2	476.8	478.6	481.4	485.1
172.5°	463.9	463.0	463.2	465.2	466.4	468.3	471.5	475.4	475.7	477.0	480.0
175°	467.6	466.7	466.7	467.6	468.6	468.6	470.4	473.2	472.2	472.2	474.0
177.5°	469.3	468.6	467.8	468.6	468.6	468.6	469.3	470.7	469.3	469.3	470.0
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	978.1	978.1	978.1	978.1	978.1	978.1	978.1	978.1
2.5°	974.7	976.0	977.4	977.9	977.8	977.6	977.4	977.2
5°	972.1	974.1	976.0	976.8	976.6	976.4	976.1	975.9
7.5°	966.9	969.1	971.3	972.2	972.0	971.8	971.5	971.3
10°	961.6	963.8	966.1	967.0	966.8	966.5	966.3	966.1
12.5°	954.3	956.2	958.2	959.3	959.2	959.1	959.1	959.0
15°	940.9	943.0	945.2	946.2	945.9	945.7	945.5	945.2
17.5°	924.5	926.8	929.0	930.0	929.8	929.6	929.4	929.2
20°	911.7	914.2	916.6	917.8	917.8	917.8	917.8	917.8
22.5°	896.8	899.3	901.7	903.2	903.6	903.9	904.3	904.7
25°	873.9	876.5	879.2	880.7	881.0	881.2	881.5	881.7
27.5°	848.1	850.6	853.1	854.4	854.8	855.1	855.3	855.6
30°	830.1	832.7	835.4	837.0	837.5	838.0	838.5	839.0
32.5°	811.6	814.7	817.8	819.5	820.0	820.5	820.9	821.5
35°	782.3	785.7	789.1	791.2	791.9	792.6	793.4	794.1
37.5°	751.7	755.2	758.6	760.7	761.5	762.3	763.0	763.8
40°	730.2	733.8	737.5	739.8	740.8	741.7	742.8	743.7
42.5°	709.1	713.1	717.2	719.5	720.3	721.1	721.9	722.6
45°	676.4	680.6	684.7	687.4	688.6	689.8	691.0	692.2
47.5°	641.8	646.1	650.5	653.3	654.7	656.2	657.7	659.2
50°	617.6	622.5	627.3	630.5	632.0	633.4	634.9	636.4
52.5°	593.1	597.9	602.9	605.9	607.4	608.9	610.4	611.8
55°	556.3	561.2	566.0	569.2	570.6	572.1	573.5	575.0
57.5°	517.6	523.4	529.2	532.7	534.1	535.5	536.9	538.2
60°	490.9	496.5	502.1	505.9	507.9	509.8	511.7	513.7
62.5°	464.6	470.2	475.9	479.6	481.6	483.5	485.4	487.4
65°	424.0	430.1	436.2	440.2	442.1	444.1	446.0	448.0
67.5°	384.1	390.3	396.5	400.5	402.4	404.3	406.2	408.1
70°	355.9	362.5	369.1	373.3	374.9	376.7	378.3	380.1
72.5°	329.3	335.6	342.1	346.2	348.1	350.0	351.9	353.8
75°	288.5	295.3	302.1	306.7	308.9	311.1	313.2	315.4
77.5°	250.6	257.5	264.4	269.1	271.4	273.8	276.1	278.5
80°	226.0	233.3	240.6	245.2	247.2	249.1	251.0	253.0
82.5°	201.8	209.4	216.8	221.7	223.8	225.9	228.1	230.2
85°	167.9	175.2	182.5	187.4	189.9	192.3	194.7	197.2
87.5°	142.5	149.7	157.0	161.6	163.9	166.3	168.2	170.3
90°	139.1	147.1	155.1	159.5	162.5	165.3	166.4	168.3
92.5°	297.7	259.8	238.8	224.9	215.9	212.9	211.8	213.7
95°	790.5	654.4	537.7	452.7	409.8	383.5	369.1	359.3
97.5°	1109.1	1062.4	978.7	886.8	822.8	769.5	744.0	727.0
100°	1206.5	1231.5	1192.9	1129.0	1050.6	996.2	970.3	964.6
102.5°	1196.6	1294.3	1313.8	1289.5	1242.3	1203.5	1176.3	1172.3
105°	1115.5	1280.8	1378.0	1419.7	1423.6	1418.1	1407.2	1403.6
107.5°	1003.8	1179.3	1313.6	1399.6	1446.8	1469.6	1480.5	1484.7
110°	936.1	1101.0	1240.1	1345.1	1412.4	1453.0	1471.6	1481.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	884.9	1031.3	1162.8	1267.7	1343.8	1392.5	1417.7	1433.1
115°	831.7	950.3	1063.3	1155.2	1229.7	1286.7	1317.8	1326.8
117.5°	801.8	900.6	990.3	1068.7	1132.7	1181.1	1212.8	1220.4
120°	786.6	877.2	955.7	1024.5	1078.9	1121.3	1147.2	1159.3
122.5°	773.5	861.0	932.9	993.4	1039.6	1075.9	1097.9	1109.8
125°	752.4	836.1	904.4	958.0	996.2	1024.5	1043.4	1050.4
127.5°	726.9	807.0	874.6	925.7	964.4	989.8	1006.2	1013.4
130°	707.8	784.9	851.9	903.6	942.8	967.3	983.5	990.5
132.5°	688.5	761.0	826.2	877.9	916.3	943.7	959.2	966.2
135°	660.2	723.9	783.9	832.7	870.9	898.2	914.3	921.3
137.5°	635.1	689.3	740.1	784.2	819.8	846.4	859.8	867.7
140°	620.7	667.1	711.7	752.5	786.0	807.5	821.6	830.1
142.5°	607.8	648.7	687.0	722.4	751.9	771.7	784.2	790.4
145°	590.2	623.0	652.0	679.1	703.0	719.6	729.8	735.4
147.5°	575.7	600.8	623.1	643.8	661.5	675.7	683.5	686.0
150°	568.0	589.1	607.5	624.1	638.8	650.8	656.3	657.3
152.5°	559.8	578.1	595.0	608.6	621.2	630.9	634.2	635.2
155°	547.7	562.4	576.2	587.3	596.5	603.9	606.7	606.7
157.5°	534.6	547.0	558.6	567.4	574.4	580.0	581.6	581.6
160°	526.6	536.6	546.8	554.1	559.7	565.2	566.1	566.1
162.5°	518.4	527.1	535.0	541.6	545.7	551.2	552.2	551.4
165°	507.2	512.7	519.2	523.8	527.4	531.2	530.2	529.3
167.5°	496.4	500.6	505.7	508.5	510.3	512.7	512.5	511.8
170°	489.7	492.5	496.1	498.9	500.7	501.7	500.7	500.7
172.5°	483.8	485.8	488.1	490.0	491.2	492.1	491.2	489.7
175°	475.9	476.8	478.6	478.6	478.6	480.5	478.6	476.8
177.5°	470.7	471.5	471.5	472.2	471.5	472.2	470.7	469.3
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6

(END OF REPORT)