

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: P332648-927

Luminaire Tested: **S124DIP-S1020D810U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332648-927
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-S1020D810U927-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5628.9 lumens
Efficiency: N/A
Efficacy: 103.5 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

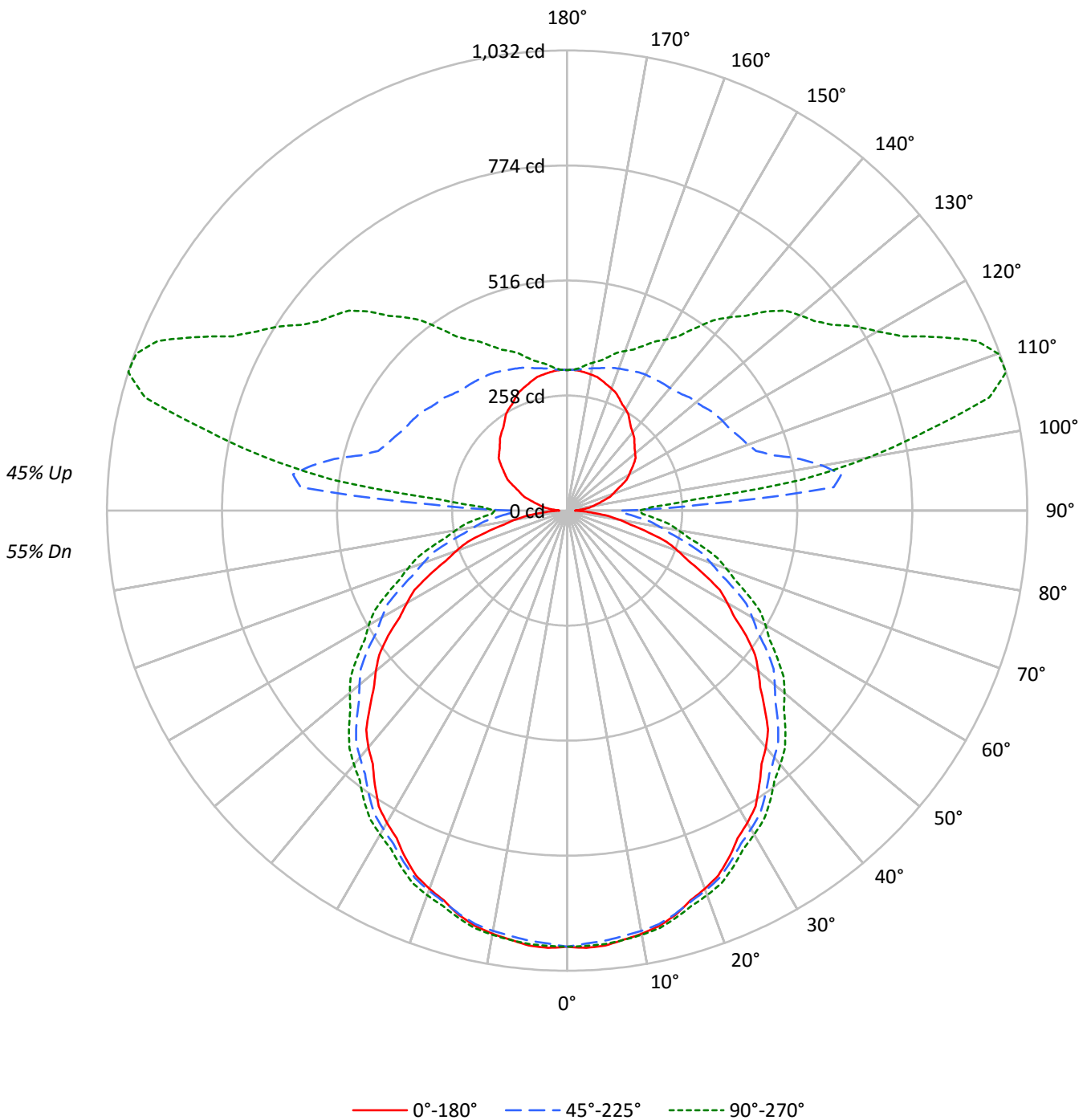
Input Watts (W): 54.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	98	93	89	85	90	86	82	79	74	71	68	62	60	58	52	50	49	44
2	89	80	74	68	82	75	69	64	64	60	56	54	51	48	45	42	40	36
3	80	70	63	56	74	65	58	53	56	51	46	47	43	40	39	36	34	30
4	73	62	54	47	68	58	50	45	50	44	39	42	38	34	35	32	29	25
5	67	55	47	40	62	51	44	38	44	38	34	38	33	29	31	28	25	22
6	62	49	41	35	57	46	38	33	40	34	29	34	29	25	28	25	22	19
7	57	44	36	30	53	42	34	29	36	30	26	31	26	22	26	22	19	17
8	53	40	32	27	49	38	30	25	33	27	23	28	23	20	24	20	17	15
9	49	37	29	24	46	34	27	23	30	24	20	26	21	18	22	18	15	13
10	46	34	26	21	43	32	25	20	28	22	18	24	19	16	20	17	14	12

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	1.6
10°-20°	265.4	4.7
20°-30°	401.3	7.1
30°-40°	485.5	8.6
40°-50°	513.3	9.1
50°-60°	483.1	8.6
60°-70°	400.8	7.1
70°-80°	281.5	5.0
80°-90°	160.9	2.9
90°-100°	322.2	5.7
100°-110°	543.9	9.7
110°-120°	471.5	8.4
120°-130°	383.6	6.8
130°-140°	309.2	5.5
140°-150°	229.8	4.1
150°-160°	159.9	2.8
160°-170°	94.0	1.7
170°-180°	30.6	0.5
0°-30°	759.3	13.5
0°-40°	1244.8	22.1
0°-60°	2241.1	39.8
0°-90°	3084.2	54.8
90°-120°	1337.6	23.8
90°-150°	2260.2	40.2
90°-180°	2545.0	45.2
0°-180°	5628.9	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	66	120	151	162	13
95°	35	115	600	374	286	34
105°	82	138	479	974	980	88
115°	134	178	414	771	920	133
125°	182	216	391	643	726	162
135°	213	254	367	553	631	165
145°	244	279	356	450	498	154
155°	277	299	346	392	408	128
165°	302	311	331	351	356	85
175°	315	315	318	322	321	30
180°	315	315	315	315	315	



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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	42.7	53.0	63.1	73.1	83.4	94.8	105.5	116.4	127.3	134.3
90°	18.1	29.2	40.7	51.1	61.4	71.5	85.7	96.2	107.9	119.6	126.0
92.5°	23.7	35.7	50.3	66.6	84.4	106.9	148.9	207.4	264.7	299.7	273.7
95°	34.7	44.6	58.8	74.9	97.8	132.8	196.7	308.2	466.3	600.2	620.9
97.5°	49.6	56.5	68.8	83.1	102.7	132.9	184.3	278.1	435.1	620.2	747.0
100°	59.1	65.4	76.1	89.9	108.0	135.7	181.7	261.3	397.1	581.2	746.4
102.5°	69.0	75.6	85.0	97.4	114.3	140.5	182.9	253.7	370.6	534.7	704.6
105°	82.3	89.0	97.0	109.3	125.3	150.3	189.0	249.4	345.2	478.6	630.3
107.5°	99.2	104.4	111.5	123.4	138.1	162.1	197.8	253.2	335.8	444.5	569.3
110°	109.7	114.4	120.9	131.7	146.3	169.0	204.7	256.6	333.3	431.6	538.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	119.8	124.0	130.6	140.6	154.7	177.1	211.4	260.5	332.2	422.8	518.2
115°	134.2	138.2	144.7	153.1	167.1	188.8	221.3	266.3	331.7	413.8	497.3
117.5°	150.3	153.4	158.5	166.7	179.0	200.6	231.4	272.8	331.8	406.6	483.9
120°	160.3	162.3	167.4	174.9	186.2	207.4	238.0	277.3	332.0	402.3	475.9
122.5°	170.2	171.7	176.1	182.6	194.2	214.5	244.7	281.6	332.5	397.4	467.5
125°	182.1	184.4	187.8	194.4	206.0	226.2	254.6	289.2	334.3	391.2	455.3
127.5°	193.5	195.2	199.4	207.0	219.0	238.7	264.9	295.7	334.5	383.3	439.7
130°	199.0	201.3	206.0	215.0	226.6	246.4	271.3	299.4	334.9	378.3	429.8
132.5°	205.5	207.2	213.4	222.0	234.5	252.9	277.0	303.8	335.6	374.4	421.2
135°	213.4	215.9	222.0	232.6	245.7	262.6	284.7	308.7	335.8	367.3	407.1
137.5°	222.4	224.6	231.2	240.9	254.2	269.8	289.8	311.4	334.8	362.1	395.3
140°	228.9	230.5	237.1	247.4	260.2	275.0	293.8	313.9	335.2	359.0	388.8
142.5°	235.0	236.8	243.0	253.0	265.5	279.8	297.7	315.9	335.8	357.2	383.7
145°	244.5	246.1	252.1	260.5	272.0	285.6	301.7	318.4	336.4	355.5	376.8
147.5°	255.6	256.0	261.1	269.8	279.3	291.5	306.7	321.2	337.0	353.3	371.0
150°	262.5	262.8	267.6	274.8	283.8	295.5	309.1	322.7	337.0	351.8	367.3
152.5°	268.1	268.2	273.1	280.0	288.2	299.0	311.1	323.7	336.0	349.4	363.4
155°	276.9	277.5	281.2	287.4	294.2	303.5	314.0	324.6	334.5	345.6	357.4
157.5°	285.7	285.7	289.1	294.0	299.9	307.2	316.2	324.6	332.9	341.8	351.3
160°	291.1	291.1	293.6	297.9	302.9	309.7	317.1	324.6	331.4	338.8	346.9
162.5°	296.1	295.6	297.5	301.4	305.9	311.2	318.1	324.6	329.9	335.9	342.9
165°	301.7	301.7	302.9	306.0	309.1	312.8	318.4	323.4	327.1	331.4	336.4
167.5°	307.2	306.7	307.2	309.6	311.3	314.2	318.3	321.9	324.1	326.9	330.4
170°	309.7	309.1	309.7	311.6	312.8	314.7	317.7	320.8	322.1	323.9	326.5
172.5°	312.2	311.6	311.7	313.1	313.8	315.1	317.3	319.9	320.1	321.0	323.0
175°	314.7	314.0	314.0	314.7	315.3	315.3	316.6	318.4	317.7	317.7	319.0
177.5°	315.8	315.3	314.8	315.3	315.3	315.3	315.8	316.8	315.8	315.8	316.2
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3



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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°	141.4	148.6	155.8	160.4	162.6	164.9	166.9	169.1
90°	133.7	141.4	149.1	153.5	156.1	158.7	160.0	162.0
92.5°	238.5	215.3	203.5	195.5	190.1	188.7	188.5	190.5
95°	567.4	478.0	401.6	345.9	317.7	300.7	291.7	285.8
97.5°	779.4	750.1	695.9	635.5	593.1	557.9	541.4	530.6
100°	843.4	862.4	838.6	796.9	744.7	708.6	691.7	688.5
102.5°	835.2	903.0	918.1	903.2	872.0	846.6	828.9	826.8
105°	778.2	891.4	958.9	988.2	991.5	988.5	981.8	979.9
107.5°	700.9	821.0	913.4	972.5	1004.8	1020.7	1028.6	1032.0
110°	654.0	766.8	862.2	934.1	980.0	1008.0	1021.1	1028.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	618.1	718.2	808.5	880.3	932.2	965.6	983.1	994.1
115°	580.0	661.6	739.4	802.4	853.0	891.9	913.4	920.1
117.5°	557.5	625.7	687.7	741.6	785.3	818.5	840.5	846.3
120°	545.8	608.2	662.7	710.1	747.3	776.6	794.6	803.4
122.5°	535.4	596.0	645.9	687.8	719.4	744.4	759.8	768.3
125°	519.4	577.3	624.6	661.7	687.9	707.4	720.6	725.8
127.5°	499.9	555.2	602.2	637.5	664.1	681.8	693.3	698.7
130°	485.6	538.9	585.4	621.2	648.0	665.0	676.4	681.5
132.5°	471.3	521.5	566.8	602.5	628.8	647.7	658.6	663.8
135°	450.0	494.2	535.8	569.5	595.7	614.5	625.9	631.1
137.5°	431.3	468.9	504.3	534.6	559.0	577.3	586.8	592.5
140°	420.4	452.7	483.8	512.0	534.9	549.7	559.6	565.8
142.5°	411.0	439.4	466.0	490.5	510.7	524.4	533.1	537.6
145°	398.2	420.6	440.7	459.2	475.7	487.2	494.4	498.4
147.5°	387.5	404.5	419.5	433.6	445.8	455.6	461.1	463.0
150°	382.1	396.4	408.8	419.9	429.9	437.9	441.6	442.3
152.5°	376.8	389.0	400.4	409.6	418.0	424.5	426.7	427.4
155°	368.5	378.5	387.8	395.2	401.4	406.3	408.2	408.2
157.5°	359.7	368.0	375.9	381.8	386.5	390.2	391.3	391.3
160°	354.3	361.2	368.0	372.9	376.6	380.3	381.0	381.0
162.5°	348.9	354.7	360.0	364.5	367.2	370.9	371.5	371.1
165°	341.3	345.0	349.4	352.4	354.9	357.4	356.8	356.2
167.5°	334.0	336.8	340.3	342.1	343.4	345.0	344.9	344.4
170°	329.5	331.4	333.9	335.7	337.0	337.5	337.0	337.0
172.5°	325.6	326.9	328.4	329.8	330.5	331.1	330.5	329.5
175°	320.3	320.8	322.1	322.1	322.1	323.4	322.1	320.8
177.5°	316.8	317.3	317.3	317.7	317.3	317.7	316.8	315.8
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3

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