

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: P331299-840

Luminaire Tested: **S122DIP-S485D530U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331299-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S485D530U840-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4072.0 lumens  
Efficiency: N/A  
Efficacy: 124.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

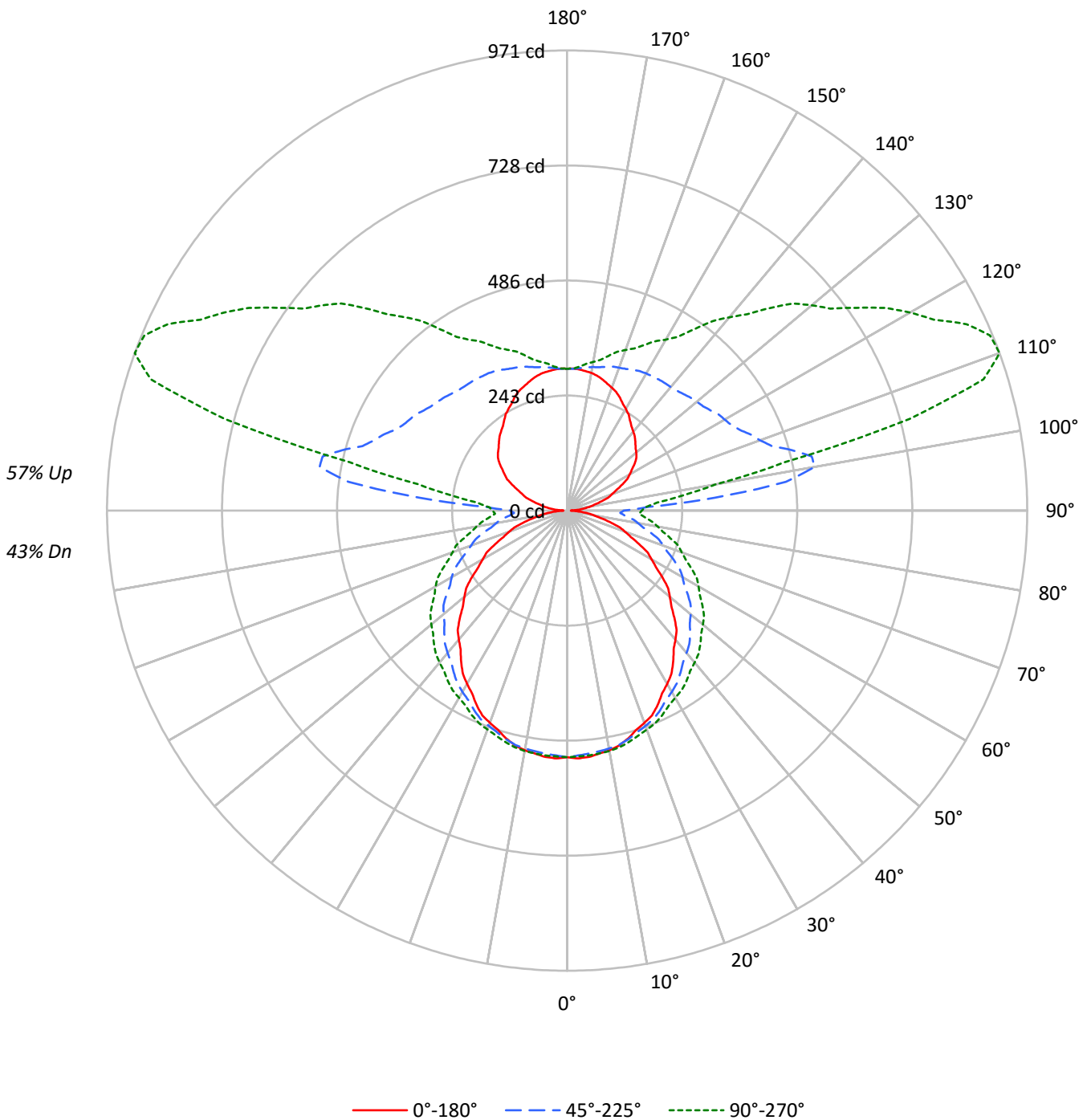
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	80	80	80	64	64	64	50	50	50	43
1	95	90	86	82	87	82	79	75	68	65	63	54	53	51	42	41	40	34
2	86	78	71	66	78	71	66	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	23
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	18	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

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

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.3	1.2
10°-20°	141.4	3.5
20°-30°	214.3	5.3
30°-40°	261.0	6.4
40°-50°	280.8	6.9
50°-60°	272.7	6.7
60°-70°	238.1	5.8
70°-80°	183.3	4.5
80°-90°	125.7	3.1
90°-100°	204.5	5.0
100°-110°	468.2	11.5
110°-120°	472.6	11.6
120°-130°	378.2	9.3
130°-140°	294.9	7.2
140°-150°	217.3	5.3
150°-160°	151.6	3.7
160°-170°	89.2	2.2
170°-180°	29.0	0.7
0°-30°	405.0	9.9
0°-40°	666.0	16.4
0°-60°	1219.4	29.9
0°-90°	1766.5	43.4
90°-120°	1145.3	28.1
90°-150°	2035.7	50.0
90°-180°	2305.0	56.6
0°-180°	4072.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	8	59	119	147	158	6
95°	26	92	312	200	190	26
105°	74	133	492	853	749	79
115°	127	169	402	804	930	125
125°	174	207	369	642	746	155
135°	204	243	348	525	604	157
145°	232	266	338	423	467	145
155°	263	284	328	371	385	121
165°	287	295	314	333	338	81
175°	299	299	302	306	305	28
180°	299	299	299	299	299	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	14.9	25.2	35.6	45.9	56.1	66.9	78.2	89.7	101.1	111.9	118.7
90°	8.1	19.6	31.6	42.4	53.3	65.2	78.9	93.6	107.9	119.2	125.2
92.5°	13.9	26.2	39.3	50.9	63.8	79.0	102.3	131.0	157.6	169.0	163.9
95°	26.2	36.4	50.0	63.1	80.2	102.9	139.5	199.7	276.5	312.5	290.6
97.5°	38.1	48.3	61.3	76.1	93.8	117.8	160.7	240.1	360.8	465.6	490.7
100°	49.6	57.6	69.0	84.3	102.1	126.0	165.9	245.5	379.3	530.4	619.6
102.5°	59.6	66.6	77.4	92.3	109.9	133.4	170.8	242.4	366.6	528.5	664.9
105°	74.0	81.2	90.1	103.6	121.1	144.0	179.9	239.7	343.6	491.6	650.7
107.5°	90.5	96.2	104.0	115.8	132.3	154.6	189.2	242.3	329.2	452.7	593.7
110°	100.9	106.5	113.4	124.2	139.7	162.2	195.7	245.4	323.9	433.4	558.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.1	116.1	122.9	132.8	147.2	169.7	201.9	248.8	320.5	419.1	531.7
115°	126.8	131.6	136.8	145.6	159.0	179.3	211.6	254.2	317.6	402.3	498.4
117.5°	142.4	145.9	150.6	157.9	170.2	190.4	220.3	260.2	316.1	390.7	474.8
120°	152.6	155.5	159.7	165.5	177.7	197.5	226.7	264.5	315.6	383.8	461.7
122.5°	162.3	164.4	168.0	174.0	185.8	205.6	233.1	268.1	315.6	378.4	450.1
125°	174.3	176.0	179.5	186.4	197.9	216.7	242.8	274.1	315.2	368.9	432.7
127.5°	184.4	186.5	191.3	198.6	209.5	228.2	252.7	280.2	315.7	361.5	416.6
130°	190.4	192.6	198.1	206.0	217.4	235.2	258.8	284.3	316.6	357.0	405.9
132.5°	195.9	198.5	204.6	213.0	224.8	242.2	264.1	288.2	317.4	352.8	396.6
135°	203.5	205.8	212.7	221.4	234.6	251.6	271.7	293.5	318.2	347.5	383.8
137.5°	211.3	214.0	221.0	230.0	243.2	258.5	277.4	297.0	318.7	343.1	373.7
140°	217.3	219.4	226.2	235.2	247.7	262.8	280.4	298.6	318.5	340.1	367.6
142.5°	223.3	225.0	231.3	240.2	252.4	266.3	283.3	300.6	318.9	338.9	362.6
145°	231.6	233.8	239.5	248.2	259.7	272.4	287.9	304.1	320.2	337.5	356.9
147.5°	241.2	242.9	248.4	256.4	266.0	277.2	291.9	306.1	320.6	335.4	351.6
150°	247.6	249.3	254.0	261.5	270.1	280.4	293.7	307.0	320.2	334.1	347.9
152.5°	254.1	254.9	259.5	266.1	274.3	283.7	295.6	307.4	319.3	331.7	344.7
155°	263.2	263.8	267.2	273.6	279.9	288.5	298.3	308.1	317.9	327.7	338.6
157.5°	270.7	271.4	274.2	279.6	284.8	292.0	300.2	308.1	315.3	323.6	333.0
160°	275.9	276.4	278.7	283.4	287.9	294.3	301.2	308.1	313.9	320.8	328.8
162.5°	280.9	280.5	282.9	286.6	290.7	295.7	301.6	307.6	312.5	318.5	325.2
165°	286.8	286.2	287.4	290.8	293.7	297.2	302.4	306.4	309.8	313.9	319.0
167.5°	291.6	290.9	292.0	294.2	296.3	298.4	302.3	305.6	307.2	309.8	313.1
170°	294.9	293.7	294.3	296.0	297.2	298.9	301.7	304.7	305.8	307.5	309.8
172.5°	296.7	296.0	295.7	297.4	298.1	299.3	301.3	303.3	304.0	304.8	306.6
175°	298.9	298.3	297.7	298.9	298.9	299.4	300.6	301.7	301.2	301.7	302.4
177.5°	299.9	299.0	298.5	299.4	299.4	299.4	299.9	300.8	299.9	299.4	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	125.3	132.0	139.1	143.6	145.8	147.9	150.1	152.2
90°	131.4	136.9	144.8	149.8	151.8	153.8	155.7	157.7
92.5°	157.4	156.9	158.6	159.4	160.9	161.1	163.6	164.6
95°	250.3	221.6	203.8	195.3	189.9	187.2	187.5	190.1
97.5°	444.7	386.9	330.8	293.4	267.8	255.6	249.1	246.3
100°	613.6	548.5	475.7	410.1	364.1	341.1	326.3	317.8
102.5°	723.0	712.9	661.3	591.4	541.3	500.8	481.8	469.6
105°	776.3	847.3	860.6	845.5	811.6	777.8	754.9	748.6
107.5°	726.4	830.0	895.5	927.2	933.5	933.4	930.3	921.4
110°	684.9	793.3	872.4	923.2	949.9	962.6	969.7	971.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	646.6	750.8	835.1	892.7	929.1	949.2	960.9	965.8
115°	598.3	692.2	772.5	835.4	878.1	906.5	923.2	930.3
117.5°	560.5	643.4	716.7	775.7	819.1	848.8	866.3	872.3
120°	540.7	616.8	682.6	738.2	780.4	809.3	827.8	835.5
122.5°	524.3	594.3	656.7	707.1	744.9	773.1	789.5	795.9
125°	500.0	563.9	619.0	665.3	700.2	723.6	739.5	745.6
127.5°	476.1	533.8	585.8	628.4	659.0	681.1	695.0	700.1
130°	460.6	514.1	563.7	604.4	633.9	654.9	667.7	673.7
132.5°	445.7	495.3	541.1	579.4	608.5	629.4	641.4	646.8
135°	424.9	466.4	507.9	542.6	568.7	589.0	600.7	604.4
137.5°	407.3	442.1	475.3	505.6	529.3	546.8	557.0	561.7
140°	396.2	426.5	455.7	482.9	502.3	518.3	528.0	532.4
142.5°	387.5	413.1	438.1	460.8	479.2	493.6	502.2	503.7
145°	375.8	395.8	414.7	432.2	447.0	457.6	464.1	466.8
147.5°	367.0	382.1	396.2	408.7	420.5	428.7	433.0	434.4
150°	361.6	374.4	386.5	396.8	405.5	412.3	415.8	416.4
152.5°	356.6	368.4	378.6	387.6	394.4	400.4	402.9	403.0
155°	349.6	358.8	367.4	373.8	380.1	384.2	386.5	385.3
157.5°	341.4	349.1	356.4	361.3	365.8	369.2	370.2	370.2
160°	336.3	342.6	349.0	353.0	357.1	359.9	360.5	360.5
162.5°	331.2	336.7	342.1	345.2	349.2	351.2	351.7	351.3
165°	323.7	327.7	331.7	334.1	336.3	338.6	338.6	338.1
167.5°	316.4	319.5	322.2	324.4	325.4	326.7	326.6	325.9
170°	312.8	314.5	316.8	317.9	318.5	320.2	319.6	318.5
172.5°	308.6	309.8	311.6	312.4	313.0	313.8	313.2	312.5
175°	304.1	304.7	305.3	305.8	305.8	306.4	305.8	304.7
177.5°	300.8	300.8	301.3	301.3	301.3	301.3	300.8	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4

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