

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: P332552-840

Luminaire Tested: **SA4XXDIP-C575D590U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332552-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C575D590U840-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

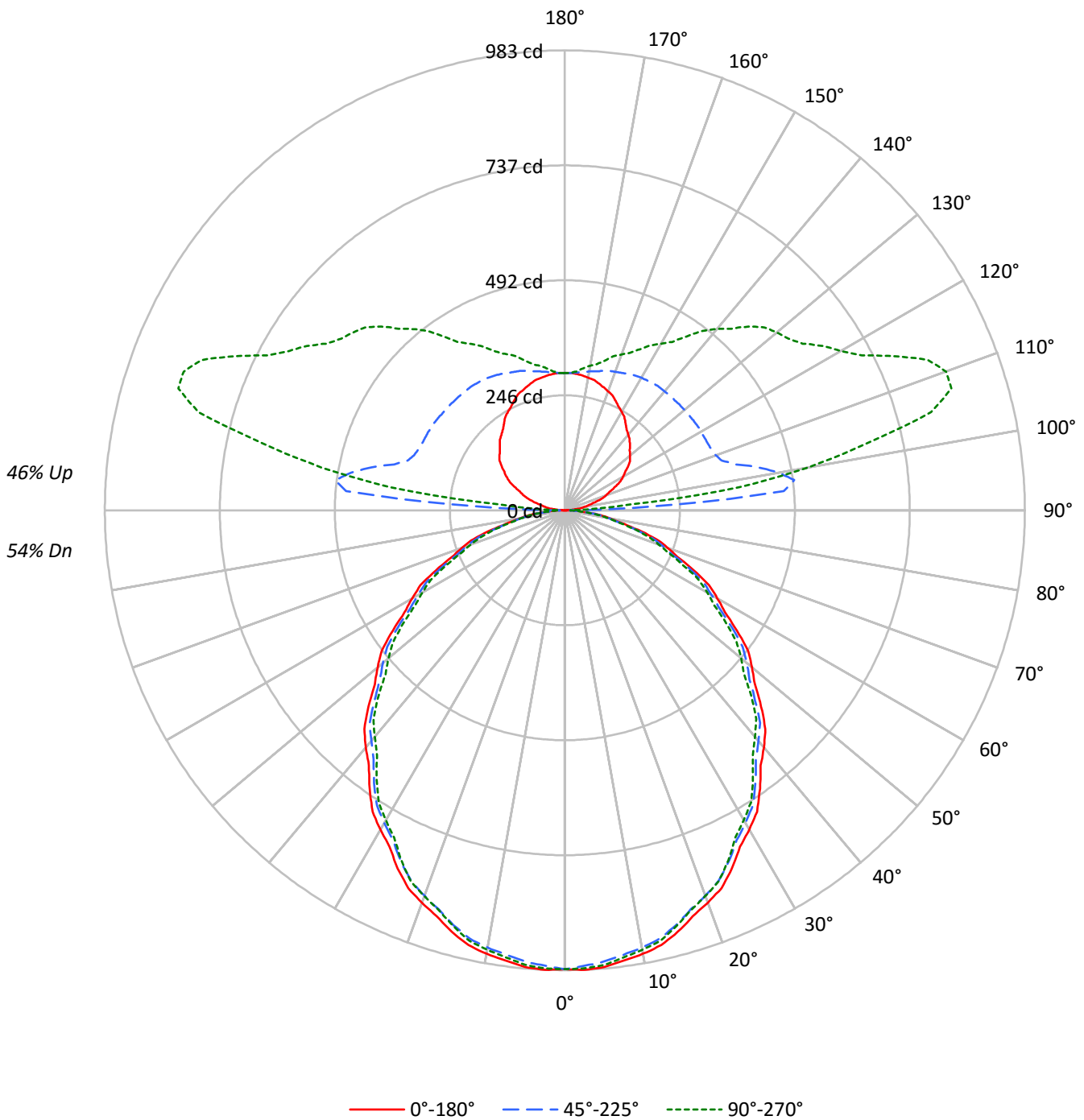
Lumens per Lamp: N/A
Luminaire Lumens: 4650.9 lumens
Efficiency: N/A
Efficacy: 141.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

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	50	30	10	0	
RCR																						
0	108	108	108	108	100	100	100	100	86	86	86	72	72	72	60	60	60	54				54
1	99	94	90	87	91	88	84	81	75	73	70	64	62	60	53	52	51	46				46
2	90	82	76	71	83	77	71	67	66	62	58	56	53	50	47	44	43	38				38
3	82	72	65	59	76	67	61	56	58	53	49	49	46	42	41	39	36	32				32
4	75	64	56	50	69	60	53	47	52	46	42	44	40	36	37	34	31	28				28
5	69	57	49	43	64	53	46	41	46	40	36	39	35	32	33	30	27	24				24
6	63	51	43	37	59	48	41	35	42	36	31	36	31	28	30	27	24	21				21
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	28	24	21	19				19
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17				17
9	51	38	31	26	47	36	29	25	32	26	22	27	23	20	23	20	17	15				15
10	47	35	28	23	44	33	27	22	29	24	20	25	21	18	22	18	16	14				14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7917	7917	7917
5°	7942	7846	7903
10°	7891	7782	7820
15°	7796	7672	7691
20°	7669	7534	7541
25°	7525	7378	7357
30°	7347	7194	7127
35°	7164	7001	6908
40°	6973	6783	6658
45°	6774	6567	6441
50°	6553	6376	6178
55°	6315	6128	5928
60°	6077	5848	5670
65°	5809	5585	5358
70°	5509	5231	5028
75°	5050	4803	4682
80°	4491	4310	4203
85°	3927	3788	3714



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.4	2.0
10°-20°	260.2	5.6
20°-30°	383.0	8.2
30°-40°	445.3	9.6
40°-50°	445.3	9.6
50°-60°	389.5	8.4
60°-70°	289.3	6.2
70°-80°	164.3	3.5
80°-90°	49.1	1.1
90°-100°	211.8	4.6
100°-110°	440.8	9.5
110°-120°	394.8	8.5
120°-130°	332.1	7.1
130°-140°	276.9	6.0
140°-150°	211.5	4.5
150°-160°	148.7	3.2
160°-170°	87.5	1.9
170°-180°	28.5	0.6
0°-30°	735.6	15.8
0°-40°	1180.9	25.4
0°-60°	2015.7	43.3
0°-90°	2518.3	54.1
90°-120°	1047.4	22.5
90°-150°	1868.0	40.2
90°-180°	2133.0	45.9
0°-180°	4650.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	981	981	981	981	981	
5°	980	976	968	976	975	93
15°	933	929	918	922	920	263
25°	845	839	828	829	826	388
35°	727	721	710	705	701	454
45°	593	587	575	567	564	457
55°	449	446	435	426	421	402
65°	304	300	292	285	280	301
75°	162	158	154	151	150	172
85°	42	42	41	41	40	47
90°	1	5	10	12	12	3
95°	19	60	470	232	141	21
105°	67	98	378	814	810	72
115°	119	149	337	648	778	118
125°	165	196	335	551	621	147
135°	196	234	332	489	555	152
145°	226	259	331	412	453	142
155°	258	278	321	364	380	119
165°	280	289	308	326	331	79
175°	293	293	296	300	298	28
180°	293	293	293	293	293	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7
2.5°	983.2	982.8	982.4	982.0	981.6	980.6	979.1	977.5	975.9	974.4	975.8
5°	980.0	979.3	978.6	977.9	977.1	975.8	973.9	972.0	970.1	968.2	970.1
7.5°	970.8	970.1	969.5	968.8	968.1	966.6	964.5	962.4	960.2	958.1	959.7
10°	962.6	962.0	961.3	960.6	959.9	958.4	956.1	953.8	951.6	949.3	950.7
12.5°	952.0	951.3	950.6	949.9	949.2	947.7	945.2	942.8	940.4	938.0	939.5
15°	932.8	932.1	931.4	930.7	930.0	928.4	925.7	923.1	920.5	917.9	918.9
17.5°	909.7	908.8	908.0	907.1	906.2	904.5	902.0	899.6	897.1	894.6	895.2
20°	892.7	891.8	891.0	890.1	889.2	887.5	884.8	882.2	879.6	877.0	877.5
22.5°	874.4	873.3	872.2	871.0	869.9	868.0	865.4	862.7	860.1	857.5	858.5
25°	844.8	843.5	842.3	841.1	839.9	838.1	835.6	833.1	830.7	828.3	828.5
27.5°	810.8	809.6	808.3	807.1	805.8	804.1	801.7	799.5	797.2	795.0	794.6
30°	788.2	786.8	785.4	784.0	782.6	780.7	778.5	776.2	774.0	771.7	771.0
32.5°	764.3	763.1	761.7	760.5	759.3	757.4	755.1	752.7	750.2	747.8	747.0
35°	726.9	725.7	724.5	723.3	722.1	720.1	717.7	715.3	712.9	710.4	709.1
37.5°	687.4	686.3	685.2	684.1	683.0	681.2	678.5	675.9	673.3	670.7	669.3
40°	661.7	660.2	658.8	657.5	656.1	654.1	651.5	648.8	646.2	643.6	641.9
42.5°	634.0	633.2	632.4	631.5	630.7	628.7	625.9	623.0	620.1	617.2	615.2
45°	593.3	592.1	590.9	589.7	588.4	586.4	583.6	580.8	578.0	575.2	573.3
47.5°	550.7	549.9	549.1	548.2	547.3	545.6	543.1	540.5	537.9	535.3	533.1
50°	521.8	521.1	520.4	519.7	519.0	517.5	515.0	512.5	510.1	507.7	505.2
52.5°	493.5	492.7	491.8	491.0	490.2	488.5	485.8	483.3	480.7	478.1	475.9
55°	448.7	448.2	447.7	447.2	446.7	445.1	442.7	440.2	437.8	435.4	433.2
57.5°	406.0	405.4	404.8	404.1	403.5	402.1	399.7	397.3	394.9	392.4	390.4
60°	376.4	375.6	374.7	373.8	372.9	371.3	369.1	366.8	364.6	362.2	360.7
62.5°	347.5	346.8	346.0	345.3	344.6	343.0	340.6	338.2	335.8	333.4	331.9
65°	304.1	303.3	302.4	301.5	300.6	299.3	297.6	295.8	294.1	292.4	290.5
67.5°	260.4	259.6	258.8	258.0	257.2	256.0	254.3	252.7	251.0	249.2	247.6
70°	233.4	232.2	231.0	229.7	228.5	227.2	225.8	224.4	223.0	221.6	220.3
72.5°	204.5	203.3	202.1	200.8	199.5	198.4	197.3	196.2	195.1	193.9	192.8
75°	161.9	161.0	160.2	159.3	158.3	157.5	156.6	155.7	154.9	154.0	153.3
77.5°	121.2	120.8	120.4	120.1	119.7	119.1	118.3	117.5	116.7	116.0	115.7
80°	96.6	96.1	95.6	95.1	94.5	94.1	93.8	93.4	93.1	92.7	92.4
82.5°	72.8	72.5	72.3	72.0	71.8	71.6	71.6	71.5	71.4	71.4	71.1
85°	42.4	42.4	42.4	42.4	42.4	42.2	41.9	41.6	41.2	40.9	40.9
87.5°	16.5	16.6	16.8	16.8	16.7	16.6	17.2	17.0	17.1	17.2	17.1
90°	0.6	1.7	3.4	4.0	4.6	4.6	8.1	8.1	9.2	10.4	9.8
92.5°	6.6	9.6	14.9	22.0	30.4	42.4	71.7	116.3	160.0	182.7	152.2
95°	19.0	20.7	26.5	34.0	47.8	72.0	122.1	216.6	354.3	469.5	482.7
97.5°	34.1	34.1	39.1	45.9	57.9	78.2	116.7	194.7	331.6	494.5	606.5
100°	43.8	43.8	47.8	54.7	65.6	84.1	118.1	183.2	300.7	463.1	610.7
102.5°	53.0	53.9	57.5	63.9	74.4	91.9	122.7	180.0	279.9	424.0	576.0
105°	67.4	69.2	72.0	79.0	89.3	106.0	133.6	181.5	262.2	377.9	513.3
107.5°	83.3	84.4	87.4	94.7	104.6	121.1	146.4	190.0	258.9	352.1	462.6
110°	93.9	95.0	98.0	104.8	115.2	130.8	156.1	196.4	259.8	343.4	437.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.0	105.2	108.6	115.0	125.3	140.9	165.3	203.4	262.6	339.2	422.9
115°	118.7	120.4	124.4	130.2	141.2	156.7	179.8	214.3	267.9	337.0	409.6
117.5°	133.9	135.5	139.1	145.4	155.6	171.8	193.7	225.5	273.5	336.4	403.6
120°	144.0	145.2	149.2	155.5	165.3	181.5	203.4	233.3	277.7	336.4	400.4
122.5°	153.2	154.4	158.4	164.3	175.0	190.7	212.6	240.7	281.9	336.0	396.7
125°	165.3	167.6	171.1	177.4	188.3	204.5	225.2	251.8	288.0	335.3	390.6
127.5°	176.0	177.9	182.1	189.2	200.7	216.9	237.0	261.4	293.0	334.0	382.4
130°	182.1	184.3	188.9	197.6	208.5	225.2	244.8	267.3	296.7	333.6	377.3
132.5°	188.0	189.9	195.9	204.1	215.9	231.7	251.3	273.3	299.9	333.1	372.7
135°	196.4	198.7	204.5	214.3	226.4	241.4	260.3	281.1	304.8	332.3	365.8
137.5°	204.9	207.0	213.4	222.7	235.3	249.5	267.3	286.7	307.6	332.2	359.8
140°	210.9	212.6	218.9	228.7	240.8	254.6	272.0	290.3	309.9	331.8	356.6
142.5°	217.3	219.0	224.9	234.2	245.9	259.2	276.1	293.1	311.7	331.8	353.9
145°	226.4	228.1	233.9	242.0	252.9	265.6	280.5	296.1	312.9	330.6	349.1
147.5°	236.6	237.2	242.3	250.5	259.7	271.1	285.2	298.7	313.4	328.6	344.9
150°	243.1	243.7	248.3	255.2	263.9	274.8	287.5	300.1	313.4	327.2	341.6
152.5°	249.1	249.2	253.8	260.2	268.0	278.0	289.3	301.0	312.5	324.9	337.9
155°	257.5	258.1	261.6	267.3	273.7	282.3	292.1	301.8	311.0	321.4	332.3
157.5°	265.7	265.7	268.9	273.4	278.9	285.7	294.1	301.8	309.6	317.9	326.8
160°	270.7	270.7	273.1	277.1	281.7	288.0	295.0	301.8	308.2	315.1	322.7
162.5°	275.4	274.9	276.7	280.3	284.5	289.4	295.9	301.8	306.8	312.4	318.9
165°	280.5	280.5	281.7	284.6	287.5	290.9	296.1	300.7	304.2	308.2	312.9
167.5°	285.7	285.2	285.7	287.9	289.5	292.2	296.0	299.3	301.4	304.1	307.3
170°	288.0	287.5	288.0	289.7	290.9	292.7	295.5	298.4	299.5	301.2	303.6
172.5°	290.3	289.7	289.8	291.1	291.9	293.1	295.1	297.5	297.7	298.5	300.3
175°	292.7	292.1	292.1	292.7	293.3	293.3	294.4	296.1	295.5	295.5	296.7
177.5°	293.7	293.3	292.8	293.3	293.3	293.3	293.7	294.6	293.7	293.7	294.2
180°	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	980.7	980.7	980.7	980.7	980.7	980.7	980.7	980.7
2.5°	977.2	978.7	980.1	980.7	980.5	980.4	980.3	980.1
5°	972.0	973.9	975.8	976.6	976.2	975.9	975.5	975.2
7.5°	961.2	962.7	964.2	964.9	964.7	964.5	964.3	964.0
10°	952.1	953.5	954.9	955.4	955.0	954.7	954.3	954.0
12.5°	941.1	942.6	944.1	944.6	944.1	943.6	943.2	942.7
15°	920.0	921.0	922.0	922.3	921.8	921.3	920.7	920.2
17.5°	896.0	896.6	897.3	897.4	897.1	896.7	896.4	896.1
20°	878.1	878.6	879.1	879.2	878.8	878.5	878.2	877.8
22.5°	859.4	860.3	861.3	861.4	860.8	860.2	859.6	858.9
25°	828.6	828.8	829.0	828.7	828.0	827.3	826.6	825.9
27.5°	794.2	793.7	793.2	792.6	791.7	790.9	790.0	789.1
30°	770.3	769.6	768.9	768.1	767.2	766.4	765.5	764.6
32.5°	746.1	745.3	744.5	743.6	742.8	741.8	740.9	740.1
35°	707.9	706.7	705.5	704.5	703.6	702.7	701.9	700.9
37.5°	668.0	666.6	665.3	664.1	663.0	661.8	660.7	659.4
40°	640.2	638.3	636.6	635.3	634.4	633.6	632.7	631.8
42.5°	613.2	611.1	609.0	607.7	607.2	606.6	606.0	605.4
45°	571.4	569.5	567.5	566.3	565.8	565.3	564.7	564.2
47.5°	531.0	528.8	526.6	524.9	523.6	522.2	520.9	519.6
50°	502.7	500.3	497.9	496.1	495.0	494.0	493.0	491.9
52.5°	473.7	471.6	469.5	467.7	466.4	465.0	463.7	462.4
55°	431.2	429.1	427.0	425.4	424.3	423.3	422.2	421.2
57.5°	388.5	386.5	384.5	382.9	381.9	380.9	379.9	378.9
60°	359.1	357.6	356.0	354.8	353.9	353.0	352.1	351.2
62.5°	330.5	329.0	327.6	326.5	325.6	324.8	323.9	323.0
65°	288.8	287.1	285.4	284.1	283.2	282.3	281.4	280.5
67.5°	245.9	244.3	242.6	241.6	241.4	241.2	240.9	240.7
70°	218.8	217.4	216.0	215.1	214.5	214.0	213.5	213.0
72.5°	191.7	190.6	189.5	188.6	188.1	187.6	187.1	186.5
75°	152.6	151.9	151.3	150.8	150.6	150.5	150.3	150.1
77.5°	115.5	115.3	115.1	114.8	114.3	113.9	113.4	113.0
80°	92.0	91.7	91.3	91.1	90.9	90.7	90.6	90.4
82.5°	70.9	70.7	70.5	70.3	70.2	70.0	69.8	69.6
85°	40.9	40.9	40.9	40.8	40.6	40.4	40.3	40.1
87.5°	17.2	17.3	17.4	17.4	17.5	17.7	17.5	17.5
90°	10.4	10.9	11.5	11.5	12.1	12.6	12.1	12.1
92.5°	113.1	85.1	67.8	56.2	49.4	46.4	44.3	44.3
95°	426.9	337.6	260.3	204.5	176.3	158.4	148.0	140.6
97.5°	630.7	597.5	541.2	481.0	439.7	405.0	387.7	375.7
100°	694.8	706.3	678.0	635.4	585.3	550.2	532.9	528.3
102.5°	691.6	748.7	756.9	739.1	708.3	682.9	664.7	661.0
105°	645.2	744.9	801.9	825.6	826.7	822.0	814.0	810.5
107.5°	579.5	685.5	765.9	817.2	845.7	858.8	864.5	866.1
110°	539.8	639.4	723.0	786.4	827.3	851.4	861.8	867.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	510.8	598.8	677.8	741.1	787.6	816.9	831.4	839.8
115°	481.6	552.5	619.9	675.2	720.6	755.3	773.7	778.3
117.5°	467.3	525.9	579.0	625.8	664.7	693.7	712.4	716.0
120°	460.9	514.4	560.5	601.4	634.3	659.6	674.6	681.0
122.5°	455.3	507.1	549.0	584.8	612.6	634.3	646.9	653.3
125°	445.9	495.4	535.1	566.8	589.9	606.6	617.5	621.0
127.5°	434.3	481.7	521.4	551.4	574.6	589.5	598.6	602.1
130°	425.2	470.7	509.8	540.4	564.0	578.3	587.6	591.1
132.5°	415.5	458.2	496.4	526.9	550.2	566.4	575.1	578.7
135°	402.1	439.6	474.6	503.5	526.5	542.7	551.9	555.3
137.5°	390.0	421.7	451.3	477.4	498.9	514.8	522.4	526.5
140°	383.0	410.2	436.1	460.3	480.5	493.1	501.2	505.8
142.5°	376.7	400.5	422.7	443.7	461.5	473.3	480.5	483.6
145°	367.5	387.1	404.5	420.5	434.9	444.7	450.5	453.3
147.5°	360.0	375.6	389.4	402.1	412.7	421.1	425.5	426.6
150°	355.5	368.7	380.2	390.6	399.8	407.3	410.7	411.3
152.5°	350.3	361.7	372.3	380.9	388.7	394.9	396.9	397.5
155°	342.7	351.9	360.6	367.5	373.3	377.9	379.6	379.6
157.5°	334.6	342.3	349.5	355.1	359.5	362.9	364.0	364.0
160°	329.5	335.9	342.1	346.8	350.2	353.8	354.3	354.3
162.5°	324.5	329.8	334.8	339.0	341.5	345.0	345.6	345.1
165°	317.4	320.8	324.9	327.8	330.1	332.3	331.8	331.2
167.5°	310.6	313.3	316.5	318.2	319.4	320.8	320.7	320.3
170°	306.5	308.2	310.5	312.3	313.4	314.0	313.4	313.4
172.5°	302.8	304.1	305.5	306.7	307.4	308.0	307.4	306.5
175°	297.8	298.4	299.5	299.5	299.5	300.7	299.5	298.4
177.5°	294.6	295.1	295.1	295.5	295.1	295.5	294.6	293.7
180°	293.3	293.3	293.3	293.3	293.3	293.3	293.3	293.3

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