

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: P331474

Luminaire Tested: **S122DIW-S290D710U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331474
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D710U835-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3658.1 lumens
Efficiency: N/A
Efficacy: 120.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

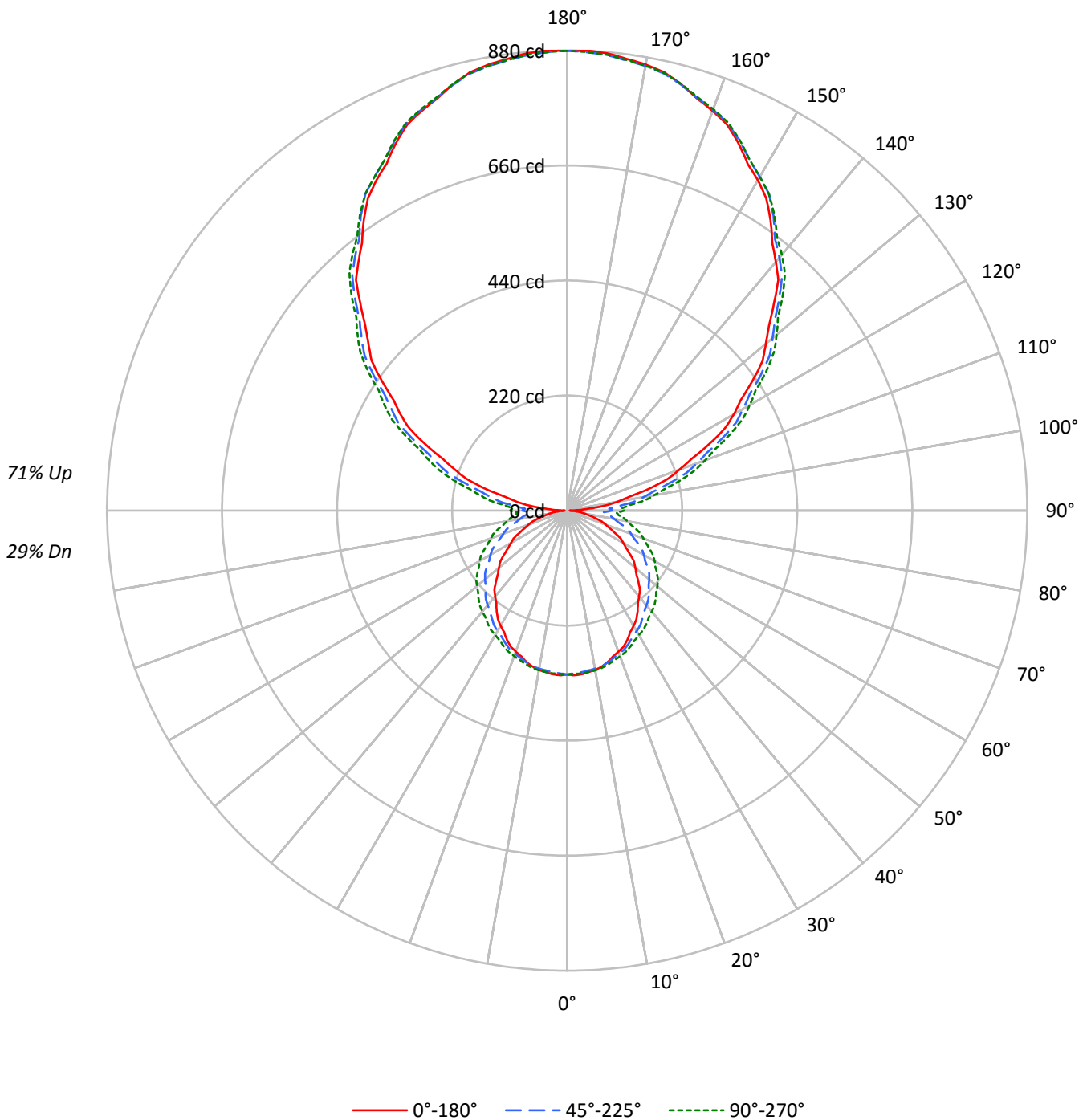
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29				
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23				
2	84	76	70	64	74	68	63	58	53	50	46	40	37	35	27	25	24	18				
3	76	66	59	53	68	60	53	48	47	42	38	35	32	29	24	22	20	15				
4	69	58	51	45	62	52	46	40	41	36	32	31	27	25	21	19	17	13				
5	63	52	44	38	56	47	40	34	37	32	28	27	24	21	19	16	15	11				
6	58	46	38	32	52	42	35	30	33	28	24	25	21	18	17	15	13	9				
7	54	42	34	28	48	37	31	26	30	25	21	22	19	16	15	13	11	8				
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	12	10	7				
9	46	34	27	22	41	31	24	20	24	20	16	19	15	13	13	11	9	7				
10	43	31	24	19	38	28	22	18	22	18	14	17	14	11	12	10	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.8
10°-20°	85.2	2.3
20°-30°	129.1	3.5
30°-40°	157.2	4.3
40°-50°	169.1	4.6
50°-60°	164.2	4.5
60°-70°	143.4	3.9
70°-80°	110.4	3.0
80°-90°	77.6	2.1
90°-100°	106.8	2.9
100°-110°	210.3	5.7
110°-120°	320.4	8.8
120°-130°	402.7	11.0
130°-140°	442.4	12.1
140°-150°	429.1	11.7
150°-160°	359.1	9.8
160°-170°	238.2	6.5
170°-180°	83.2	2.3
0°-30°	243.9	6.7
0°-40°	401.1	11.0
0°-60°	734.5	20.1
0°-90°	1065.9	29.1
90°-120°	637.5	17.4
90°-150°	1911.7	52.3
90°-180°	2592.0	70.9
0°-180°	3658.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	5	41	86	102	109	5
95°	42	71	100	116	121	47
105°	162	178	202	219	225	171
115°	299	309	327	339	343	295
125°	433	440	452	461	465	387
135°	559	567	573	582	584	432
145°	678	683	688	691	691	424
155°	775	778	780	783	781	357
165°	844	843	843	848	844	238
175°	878	876	874	879	875	83
180°	879	879	879	879	879	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.1	15.5	21.9	28.3	34.7	41.5	48.7	55.9	63.1	70.2	74.3
90°	5.3	13.1	21.0	28.8	36.6	45.6	55.7	65.8	75.8	85.9	89.6
92.5°	17.4	24.3	31.2	38.1	45.0	52.0	59.1	66.1	73.2	80.3	84.3
95°	42.2	48.6	55.0	61.4	67.8	74.2	80.6	87.0	93.3	99.7	103.6
97.5°	73.7	79.3	85.0	90.7	96.4	102.4	108.9	115.3	121.7	128.2	131.9
100°	97.4	102.5	107.5	112.6	117.6	123.2	129.4	135.5	141.7	147.8	151.6
102.5°	122.0	126.5	130.9	135.4	139.9	145.2	151.3	157.4	163.5	169.6	173.4
105°	161.8	165.2	168.7	172.1	175.5	180.0	185.6	191.2	196.7	202.3	206.2
107.5°	202.4	205.5	208.5	211.6	214.7	218.7	223.7	228.8	233.8	238.8	242.3
110°	228.1	231.2	234.2	237.2	240.2	244.2	249.1	254.0	259.0	263.9	267.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	256.6	259.3	262.0	264.7	267.4	271.0	275.6	280.2	284.7	289.3	292.1
115°	298.6	300.7	302.8	304.9	307.0	310.2	314.4	318.6	322.8	327.0	329.9
117.5°	340.0	342.1	344.1	346.2	348.2	350.9	354.2	357.4	360.7	364.0	366.6
120°	367.9	369.7	371.4	373.1	374.8	377.0	379.8	382.5	385.2	387.9	390.8
122.5°	393.5	395.2	397.0	398.7	400.4	402.7	405.6	408.5	411.4	414.2	416.6
125°	432.8	434.3	435.8	437.2	438.7	440.8	443.6	446.3	449.0	451.8	454.0
127.5°	471.5	473.3	475.1	476.9	478.6	480.5	482.5	484.5	486.6	488.6	490.5
130°	495.9	497.9	499.9	502.0	504.0	505.9	507.7	509.5	511.3	513.1	515.2
132.5°	523.2	524.8	526.5	528.1	529.8	531.4	533.1	534.8	536.5	538.2	539.8
135°	559.2	561.0	562.8	564.7	566.5	568.1	569.4	570.7	572.1	573.4	575.4
137.5°	597.7	599.1	600.6	602.0	603.5	604.7	605.6	606.4	607.3	608.2	609.9
140°	620.8	622.2	623.6	625.0	626.3	627.5	628.6	629.6	630.6	631.7	633.3
142.5°	644.6	645.9	647.3	648.7	650.1	651.1	651.7	652.3	652.9	653.5	654.9
145°	678.2	679.4	680.5	681.7	682.9	683.9	684.9	685.9	686.9	687.9	688.7
147.5°	708.7	710.0	711.4	712.8	714.2	715.2	715.9	716.5	717.2	717.9	718.3
150°	729.4	730.4	731.4	732.4	733.4	734.2	734.9	735.5	736.2	736.9	737.4
152.5°	747.8	748.8	749.8	750.8	751.8	752.7	753.5	754.3	755.1	755.9	756.5
155°	775.4	775.9	776.4	776.9	777.4	777.9	778.4	778.9	779.4	779.9	780.7
157.5°	799.0	799.4	799.7	800.0	800.4	800.7	801.0	801.3	801.6	801.9	803.0
160°	813.3	813.6	813.9	814.3	814.6	814.9	815.0	815.2	815.3	815.5	816.5
162.5°	826.3	826.4	826.5	826.5	826.6	826.7	826.9	827.1	827.2	827.4	828.5
165°	843.7	843.5	843.4	843.2	843.1	843.0	843.0	843.0	843.0	843.0	844.1
167.5°	858.3	857.8	857.3	856.8	856.3	856.0	856.0	855.9	855.9	855.9	857.0
170°	866.0	865.5	865.0	864.5	864.0	863.7	863.5	863.3	863.2	863.0	864.2
172.5°	871.3	870.8	870.3	869.8	869.3	869.0	868.8	868.7	868.5	868.3	869.5
175°	877.8	877.4	876.9	876.4	875.9	875.5	875.1	874.8	874.5	874.1	875.3
177.5°	880.5	880.1	879.7	879.3	878.9	878.6	878.3	878.1	877.8	877.5	878.3
180°	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	78.4	82.4	86.5	89.1	90.5	91.8	93.1	94.4
90°	93.4	97.1	100.8	103.3	104.7	106.1	107.4	108.8
92.5°	88.3	92.4	96.4	99.0	100.3	101.5	102.8	104.0
95°	107.4	111.2	115.1	117.4	118.3	119.2	120.1	121.0
97.5°	135.7	139.4	143.1	145.6	146.7	147.9	149.0	150.2
100°	155.3	159.0	162.8	165.1	166.1	167.0	167.9	168.9
102.5°	177.2	181.0	184.8	187.1	188.1	189.0	190.0	190.9
105°	210.0	213.9	217.8	220.3	221.4	222.5	223.6	224.7
107.5°	245.9	249.4	252.9	254.8	255.2	255.6	255.9	256.3
110°	270.4	273.6	276.9	278.8	279.4	280.0	280.6	281.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	295.0	297.8	300.6	302.4	303.2	303.9	304.7	305.4
115°	332.8	335.6	338.5	340.2	340.9	341.5	342.1	342.7
117.5°	369.2	371.8	374.4	375.9	376.5	377.0	377.5	378.1
120°	393.6	396.4	399.2	401.0	401.6	402.2	402.8	403.4
122.5°	418.9	421.3	423.6	425.1	425.7	426.3	426.9	427.5
125°	456.2	458.5	460.7	462.2	462.9	463.7	464.4	465.2
127.5°	492.4	494.3	496.2	497.3	497.7	498.1	498.4	498.8
130°	517.3	519.4	521.5	522.6	522.7	522.9	523.0	523.2
132.5°	541.5	543.1	544.7	545.6	545.9	546.2	546.5	546.8
135°	577.3	579.3	581.2	582.4	582.7	583.0	583.3	583.6
137.5°	611.6	613.3	615.1	616.0	616.0	616.0	616.0	616.1
140°	634.9	636.5	638.1	638.9	638.8	638.8	638.7	638.7
142.5°	656.3	657.8	659.2	659.8	659.7	659.6	659.4	659.3
145°	689.4	690.2	691.0	691.3	691.1	691.0	690.8	690.7
147.5°	718.7	719.2	719.6	719.7	719.3	718.9	718.5	718.1
150°	737.8	738.3	738.8	738.8	738.3	737.8	737.4	736.9
152.5°	757.1	757.7	758.4	758.4	757.7	757.1	756.5	755.9
155°	781.5	782.4	783.2	783.4	782.9	782.4	781.9	781.4
157.5°	804.1	805.2	806.3	806.5	805.7	804.9	804.1	803.3
160°	817.5	818.5	819.5	819.6	819.0	818.3	817.7	817.0
162.5°	829.6	830.8	831.9	832.0	831.2	830.5	829.7	828.9
165°	845.3	846.4	847.6	847.8	846.9	846.1	845.3	844.5
167.5°	858.2	859.3	860.5	860.6	859.8	858.9	858.1	857.2
170°	865.3	866.5	867.6	867.7	866.7	865.7	864.7	863.7
172.5°	870.7	871.8	873.0	873.0	872.1	871.1	870.1	869.1
175°	876.4	877.6	878.8	878.8	877.8	876.9	875.9	874.9
177.5°	879.1	879.9	880.7	880.7	879.9	879.1	878.3	877.5
180°	879.3	879.3	879.3	879.3	879.3	879.3	879.3	879.3

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