

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: P332154-927

Luminaire Tested: **S123DIW-S775D460U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332154-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S775D460U927-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3972.4 lumens
Efficiency: N/A
Efficacy: 105.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

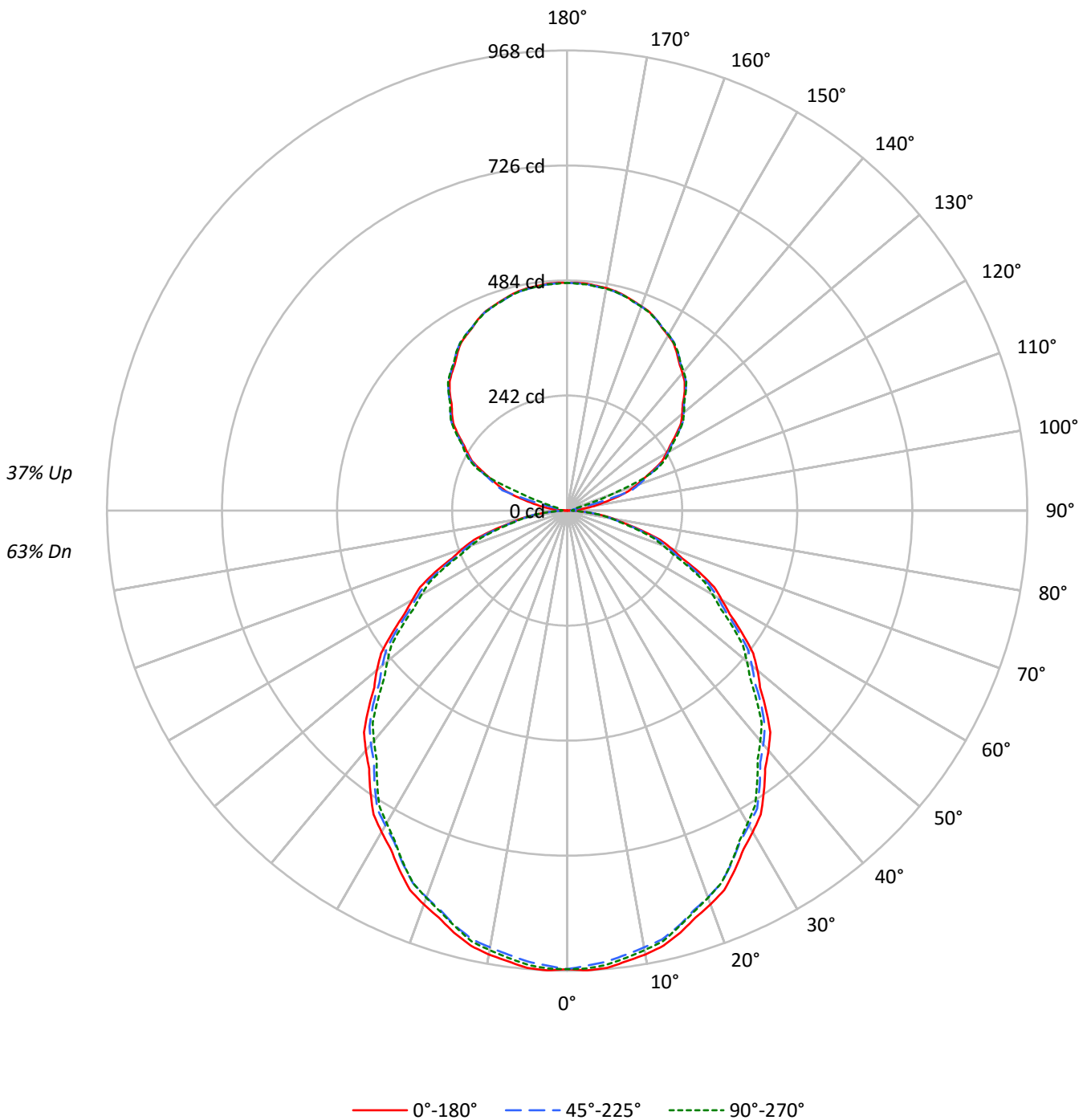
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																				
0	110	110	110	110	103	103	103	103	91	91	91		79	79	79		68	68	68	63
1	101	96	92	89	94	90	87	84	79	77	74		69	68	66		60	59	58	53
2	92	84	78	72	86	79	73	69	70	65	62		61	58	55		53	51	48	44
3	84	74	66	60	78	70	63	57	61	56	52		54	50	46		47	44	41	38
4	77	65	57	51	71	62	54	49	55	49	44		48	43	40		42	38	35	32
5	70	58	50	44	66	55	48	42	49	43	38		43	38	34		38	34	31	28
6	65	52	44	38	61	50	42	36	44	38	33		39	34	30		34	30	27	25
7	60	47	39	33	56	45	37	32	40	34	29		36	31	27		31	27	24	22
8	56	43	35	30	52	41	34	29	37	31	26		33	28	24		29	25	22	19
9	52	39	32	27	49	37	30	26	34	28	24		30	25	22		27	23	20	18
10	49	36	29	24	46	34	28	23	31	25	21		28	23	20		25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10384	10384	10384
5°	10432	10289	10361
10°	10363	10200	10263
15°	10242	10085	10104
20°	10100	9919	9929
25°	9911	9723	9704
30°	9701	9506	9434
35°	9483	9276	9155
40°	9254	9021	8882
45°	9003	8788	8573
50°	8751	8500	8264
55°	8422	8203	7955
60°	8088	7858	7608
65°	7796	7480	7246
70°	7361	7046	6735
75°	6729	6488	6209
80°	6069	5808	5759
85°	5323	5125	4915



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.9	2.3
10°-20°	256.6	6.5
20°-30°	379.0	9.5
30°-40°	442.7	11.1
40°-50°	445.1	11.2
50°-60°	391.0	9.8
60°-70°	291.3	7.3
70°-80°	166.0	4.2
80°-90°	49.0	1.2
90°-100°	17.4	0.4
100°-110°	83.0	2.1
110°-120°	199.4	5.0
120°-130°	253.9	6.4
130°-140°	271.3	6.8
140°-150°	253.7	6.4
150°-160°	204.6	5.2
160°-170°	132.1	3.3
170°-180°	45.5	1.1
0°-30°	726.5	18.3
0°-40°	1169.2	29.4
0°-60°	2005.3	50.5
0°-90°	2511.5	63.2
90°-120°	299.8	7.5
90°-150°	1078.7	27.2
90°-180°	1461.0	36.8
0°-180°	3972.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	965	965	965	965	965	
5°	966	961	952	960	959	91
15°	919	915	905	911	907	259
25°	834	829	819	819	817	384
35°	722	716	706	701	697	451
45°	591	588	577	568	563	456
55°	449	447	437	428	424	402
65°	306	302	294	287	284	302
75°	162	158	156	152	149	173
85°	43	42	42	40	40	47
90°	0	4	9	10	11	3
95°	22	8	11	13	14	27
105°	106	108	78	18	16	112
115°	199	201	204	208	209	196
125°	280	283	285	285	286	250
135°	349	351	353	354	353	269
145°	403	405	406	407	407	252
155°	444	443	444	445	443	204
165°	468	467	467	469	467	132
175°	479	477	478	480	477	46
180°	479	479	479	479	479	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7
2.5°	968.0	967.4	966.9	966.2	965.7	964.6	962.9	961.3	959.6	958.1	959.5
5°	965.5	964.6	963.7	962.7	961.8	960.4	958.3	956.3	954.3	952.2	954.1
7.5°	956.1	955.1	954.2	953.3	952.4	950.9	948.7	946.7	944.5	942.5	944.1
10°	948.1	947.1	946.3	945.3	944.4	942.8	940.3	937.9	935.6	933.2	934.9
12.5°	937.5	936.7	936.0	935.2	934.4	932.9	930.7	928.4	926.1	923.8	925.1
15°	919.1	918.3	917.6	916.9	916.1	914.6	912.1	909.7	907.4	905.0	906.4
17.5°	897.6	896.7	895.7	894.8	893.8	892.2	889.8	887.3	884.9	882.6	883.6
20°	881.7	880.6	879.6	878.5	877.3	875.5	873.1	870.8	868.4	865.9	866.7
22.5°	863.8	862.7	861.6	860.5	859.4	857.6	855.2	852.9	850.5	848.0	848.7
25°	834.5	833.4	832.3	831.2	830.0	828.3	825.9	823.5	821.1	818.7	818.9
27.5°	803.1	802.0	801.0	799.9	798.8	797.0	794.4	791.9	789.3	786.6	786.8
30°	780.5	779.6	778.7	777.8	776.8	775.1	772.5	769.9	767.4	764.8	764.8
32.5°	758.0	756.8	755.5	754.3	753.1	751.5	749.5	747.5	745.5	743.5	742.5
35°	721.7	720.6	719.5	718.4	717.2	715.5	713.0	710.7	708.3	705.9	704.8
37.5°	684.4	683.1	681.7	680.2	678.9	677.0	674.5	672.1	669.6	667.3	665.9
40°	658.6	657.5	656.4	655.3	654.2	652.4	649.7	647.2	644.6	642.0	640.6
42.5°	632.7	631.4	630.2	629.0	627.7	625.8	623.2	620.6	618.1	615.4	614.0
45°	591.4	590.7	589.9	589.2	588.4	586.9	584.5	582.1	579.7	577.3	575.1
47.5°	550.4	549.4	548.3	547.2	546.1	544.5	542.2	540.0	537.7	535.5	533.3
50°	522.6	521.7	520.7	519.8	518.9	517.2	514.8	512.5	510.0	507.6	505.6
52.5°	493.4	492.7	492.1	491.5	490.8	489.3	486.7	484.2	481.6	479.1	477.4
55°	448.8	448.5	448.4	448.2	448.0	446.7	444.3	442.0	439.5	437.1	435.1
57.5°	406.3	405.7	405.0	404.4	403.8	402.5	400.6	398.6	396.7	394.8	393.0
60°	375.7	375.6	375.4	375.2	375.0	373.8	371.6	369.4	367.2	365.0	363.3
62.5°	348.6	348.1	347.6	347.1	346.7	345.3	343.1	340.9	338.7	336.4	334.8
65°	306.1	305.1	304.2	303.3	302.4	301.0	299.1	297.3	295.5	293.7	292.2
67.5°	261.1	260.3	259.5	258.6	257.9	256.7	255.4	254.0	252.5	251.2	249.9
70°	233.9	232.8	231.7	230.6	229.5	228.4	227.3	226.2	225.1	223.9	222.7
72.5°	205.4	204.5	203.7	203.0	202.2	201.1	199.9	198.6	197.3	196.1	195.0
75°	161.8	161.0	160.3	159.5	158.8	158.1	157.6	157.0	156.5	156.0	155.0
77.5°	123.1	122.7	122.3	121.9	121.4	121.0	120.3	119.6	119.0	118.3	117.6
80°	97.9	97.4	96.8	96.3	95.7	95.2	94.8	94.5	94.1	93.7	93.6
82.5°	73.4	73.2	73.1	73.0	72.9	72.8	72.7	72.6	72.6	72.5	72.2
85°	43.1	42.8	42.4	42.1	41.7	41.5	41.5	41.5	41.5	41.5	41.1
87.5°	17.3	17.0	16.8	16.5	16.2	16.1	16.2	16.2	16.2	16.3	16.2
90°	0.3	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.5	8.6	8.9
92.5°	6.7	6.4	6.2	5.9	5.7	6.0	6.8	7.5	8.3	9.1	9.6
95°	21.7	18.5	15.2	12.0	8.7	7.5	8.4	9.3	10.1	11.0	11.6
97.5°	43.6	42.1	40.7	39.3	37.8	34.2	28.5	22.8	17.2	11.5	12.1
100°	60.1	61.7	63.3	64.9	66.5	61.1	48.8	36.4	24.1	11.7	12.4
102.5°	78.9	80.1	81.2	82.4	83.5	77.3	63.8	50.4	36.9	23.4	21.5
105°	106.1	106.9	107.8	108.7	109.6	106.4	99.3	92.2	85.1	78.0	63.9
107.5°	134.7	135.4	136.1	136.7	137.4	138.4	139.5	140.6	141.7	142.8	132.6
110°	153.8	154.4	155.0	155.7	156.3	157.0	157.9	158.8	159.6	160.5	157.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.0	172.5	173.1	173.6	174.3	175.0	175.9	176.7	177.6	178.5	178.5
115°	198.9	199.4	199.9	200.3	200.8	201.5	202.2	202.9	203.6	204.3	205.1
117.5°	225.1	225.7	226.2	226.8	227.4	227.9	228.2	228.6	229.0	229.3	230.0
120°	241.3	242.0	242.7	243.4	244.2	244.6	244.9	245.1	245.3	245.6	246.2
122.5°	257.9	258.4	259.0	259.6	260.2	260.6	260.9	261.2	261.5	261.8	262.2
125°	280.4	281.1	281.7	282.3	283.0	283.4	283.8	284.1	284.4	284.7	284.9
127.5°	302.4	303.0	303.6	304.3	304.9	305.4	305.8	306.2	306.6	307.0	307.2
130°	316.1	316.7	317.3	318.0	318.6	319.1	319.4	319.7	320.0	320.3	320.6
132.5°	329.2	329.8	330.4	331.1	331.7	332.1	332.4	332.6	332.9	333.1	333.4
135°	349.1	349.6	350.1	350.5	351.0	351.4	351.7	352.0	352.4	352.7	352.9
137.5°	366.2	366.9	367.4	368.0	368.6	369.0	369.2	369.4	369.6	369.7	370.1
140°	377.6	378.1	378.6	379.1	379.5	379.9	380.1	380.3	380.6	380.8	381.1
142.5°	388.2	388.6	389.1	389.6	390.1	390.4	390.6	390.9	391.1	391.3	391.6
145°	402.9	403.5	404.0	404.6	405.1	405.4	405.6	405.8	405.9	406.1	406.2
147.5°	416.8	417.2	417.5	417.9	418.2	418.5	418.7	418.8	419.0	419.1	419.3
150°	425.3	425.6	425.8	426.0	426.3	426.4	426.6	426.7	426.9	427.1	427.2
152.5°	433.0	433.1	433.2	433.3	433.5	433.6	433.6	433.7	433.8	434.0	434.2
155°	443.8	443.6	443.5	443.4	443.2	443.1	443.2	443.3	443.4	443.5	443.9
157.5°	452.3	452.2	452.2	452.2	452.2	452.1	452.0	451.9	451.9	451.8	452.3
160°	457.3	457.2	457.2	457.1	457.0	456.9	456.9	456.8	456.7	456.6	457.1
162.5°	462.2	462.0	461.8	461.6	461.4	461.2	461.1	461.1	461.0	460.9	461.4
165°	468.0	467.8	467.5	467.3	467.1	466.9	466.8	466.8	466.7	466.6	467.2
167.5°	472.6	472.3	472.0	471.7	471.3	471.2	471.2	471.2	471.2	471.2	471.8
170°	475.2	474.8	474.5	474.2	473.9	473.7	473.7	473.7	473.7	473.7	474.4
172.5°	476.8	476.5	476.1	475.7	475.3	475.2	475.2	475.3	475.4	475.4	476.0
175°	479.0	478.6	478.2	477.8	477.4	477.3	477.4	477.4	477.5	477.6	478.2
177.5°	479.6	479.3	479.0	478.6	478.3	478.2	478.3	478.3	478.4	478.5	479.0
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	964.7	964.7	964.7	964.7	964.7	964.7	964.7	964.7
2.5°	961.0	962.5	963.9	964.6	964.5	964.3	964.2	964.0
5°	955.9	957.7	959.6	960.4	960.0	959.6	959.3	958.9
7.5°	945.8	947.5	949.1	949.8	949.6	949.4	949.1	949.0
10°	936.5	938.1	939.8	940.5	940.1	939.7	939.4	939.0
12.5°	926.3	927.5	928.8	929.2	929.0	928.8	928.6	928.4
15°	907.9	909.3	910.9	911.0	909.9	908.8	907.8	906.7
17.5°	884.6	885.7	886.7	887.0	886.6	886.2	885.8	885.4
20°	867.4	868.2	868.9	869.0	868.5	867.9	867.4	866.8
22.5°	849.2	849.9	850.4	850.3	849.7	849.0	848.3	847.6
25°	819.0	819.3	819.4	819.3	818.7	818.2	817.6	817.1
27.5°	787.0	787.1	787.3	787.0	786.3	785.6	784.9	784.2
30°	764.8	764.8	764.8	764.1	762.9	761.5	760.3	759.0
32.5°	741.5	740.5	739.4	738.6	737.8	737.1	736.4	735.8
35°	703.7	702.6	701.5	700.4	699.5	698.6	697.7	696.7
37.5°	664.6	663.2	661.9	661.0	660.4	659.8	659.2	658.6
40°	639.1	637.6	636.1	635.0	634.3	633.5	632.8	632.1
42.5°	612.5	611.0	609.6	608.5	607.8	607.0	606.3	605.5
45°	572.9	570.7	568.5	566.9	566.0	565.1	564.1	563.2
47.5°	531.2	529.0	526.8	525.3	524.5	523.7	522.9	522.0
50°	503.6	501.5	499.6	498.0	496.9	495.7	494.6	493.5
52.5°	475.6	473.9	472.1	470.8	469.7	468.6	467.5	466.4
55°	433.1	431.0	429.0	427.5	426.6	425.7	424.8	423.9
57.5°	391.2	389.4	387.6	386.2	385.1	384.0	382.9	381.9
60°	361.6	360.0	358.3	357.0	356.1	355.2	354.3	353.4
62.5°	333.1	331.4	329.8	328.7	328.0	327.4	326.8	326.1
65°	290.7	289.2	287.7	286.7	286.1	285.6	285.0	284.5
67.5°	248.6	247.3	246.0	244.9	244.2	243.4	242.6	241.9
70°	221.4	220.1	218.8	217.7	216.7	215.9	214.9	214.0
72.5°	193.8	192.7	191.5	190.7	190.2	189.7	189.3	188.8
75°	154.1	153.2	152.3	151.5	151.0	150.4	149.9	149.3
77.5°	117.0	116.4	115.7	115.5	115.5	115.5	115.5	115.5
80°	93.4	93.2	93.0	92.9	92.9	92.9	92.9	92.9
82.5°	71.9	71.5	71.1	70.9	70.8	70.7	70.5	70.3
85°	40.7	40.4	40.0	39.8	39.8	39.8	39.8	39.8
87.5°	16.2	16.1	16.0	15.9	16.0	16.0	16.0	16.1
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	10.1	10.6	11.2	11.4	11.6	11.6	11.7	11.8
95°	12.1	12.7	13.2	13.5	13.5	13.5	13.5	13.5
97.5°	12.8	13.4	14.0	14.3	14.4	14.5	14.6	14.7
100°	13.0	13.6	14.3	14.7	14.7	14.8	14.9	15.0
102.5°	19.5	17.5	15.6	14.7	14.8	15.0	15.1	15.2
105°	49.9	36.0	21.9	15.1	15.2	15.4	15.5	15.7
107.5°	122.3	112.1	101.8	91.4	80.8	70.3	59.7	49.2
110°	155.3	152.7	150.0	143.1	131.8	120.5	109.2	97.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	178.6	178.6	178.6	177.4	175.1	172.7	170.3	167.9
115°	205.9	206.7	207.5	208.0	208.3	208.7	209.0	209.3
117.5°	230.6	231.2	231.9	232.2	232.3	232.3	232.4	232.5
120°	246.8	247.5	248.1	248.4	248.4	248.4	248.4	248.4
122.5°	262.7	263.2	263.6	263.8	263.9	264.0	264.0	264.1
125°	285.0	285.2	285.3	285.5	285.7	285.8	286.0	286.1
127.5°	307.4	307.7	307.9	308.0	307.8	307.7	307.5	307.4
130°	320.9	321.2	321.5	321.6	321.5	321.3	321.2	321.0
132.5°	333.7	334.1	334.4	334.5	334.2	334.0	333.7	333.6
135°	353.2	353.4	353.6	353.6	353.4	353.2	352.9	352.7
137.5°	370.5	370.8	371.2	371.4	371.2	371.1	370.9	370.7
140°	381.4	381.8	382.1	382.1	382.0	381.8	381.7	381.5
142.5°	391.9	392.1	392.4	392.4	392.1	392.0	391.7	391.5
145°	406.4	406.5	406.7	406.8	406.8	406.8	406.8	406.8
147.5°	419.5	419.6	419.8	419.6	419.3	418.9	418.6	418.2
150°	427.4	427.5	427.7	427.7	427.5	427.2	427.0	426.7
152.5°	434.5	434.7	435.1	435.0	434.7	434.3	434.0	433.6
155°	444.3	444.7	445.0	445.0	444.5	444.0	443.5	443.1
157.5°	452.7	453.2	453.7	453.6	453.0	452.4	451.8	451.1
160°	457.6	458.0	458.5	458.5	458.0	457.4	456.9	456.3
162.5°	462.0	462.6	463.0	463.1	462.6	462.1	461.6	461.1
165°	467.9	468.5	469.1	469.1	468.6	468.1	467.5	467.0
167.5°	472.5	473.0	473.6	473.6	473.0	472.5	471.8	471.2
170°	475.0	475.6	476.3	476.3	475.6	475.0	474.4	473.7
172.5°	476.7	477.3	477.9	477.9	477.2	476.5	475.9	475.2
175°	478.7	479.3	479.8	479.8	479.2	478.6	477.9	477.3
177.5°	479.5	480.0	480.5	480.5	479.8	479.2	478.6	477.9
180°	479.0	479.0	479.0	479.0	479.0	479.0	479.0	479.0

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