

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: P332152-930

Luminaire Tested: **S123DIW-S775D460U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332152-930
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-S775D460U930-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 775 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 460 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4138.4 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

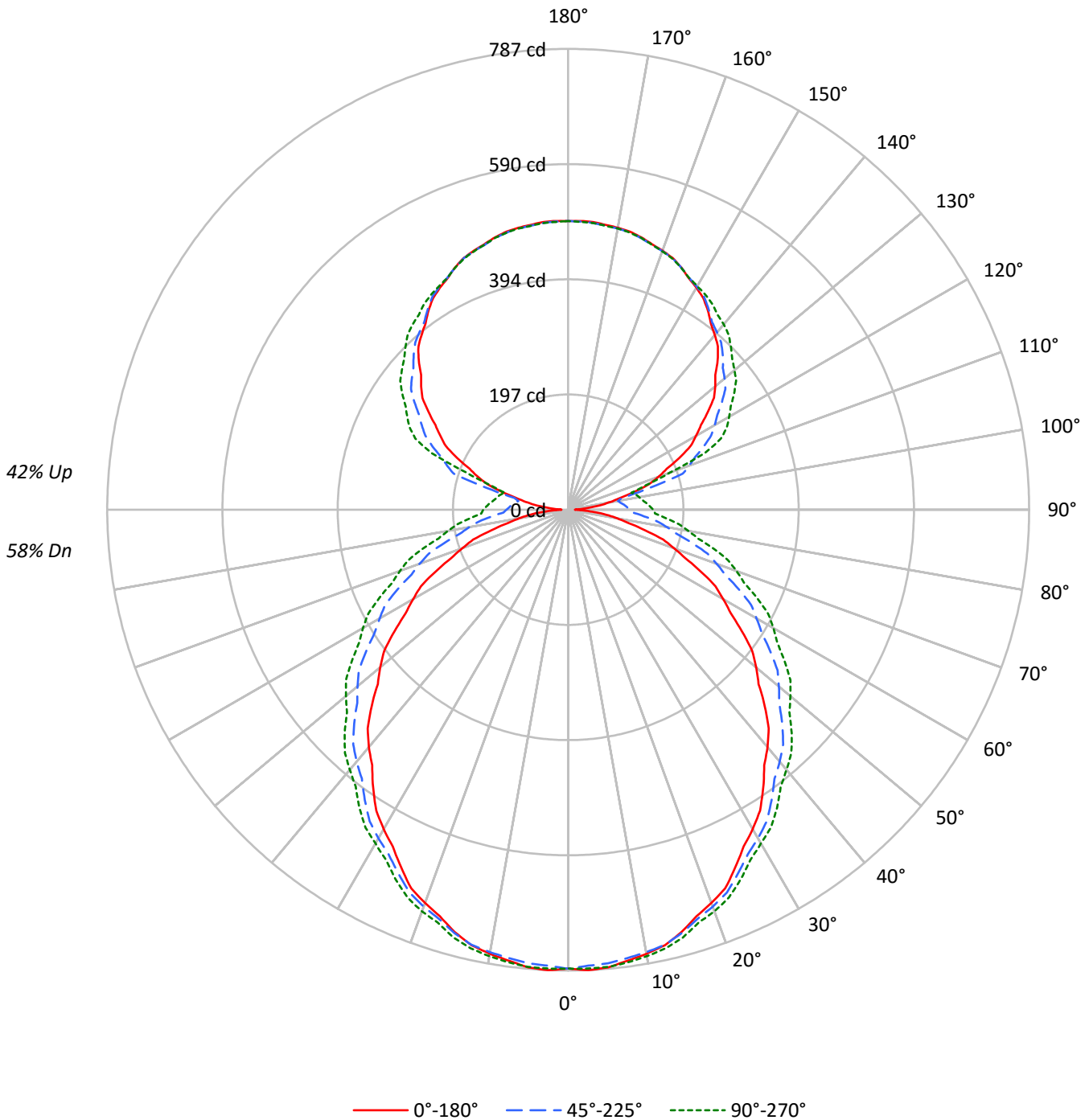
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332152-930

CATALOG NUMBER: S123DIW-S775D460U930-4F0-1E-UDD-D

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	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58
1	98	93	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	47
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	45	42	38
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	36	32
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27
5	68	56	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23
6	62	50	41	35	58	47	39	33	41	34	30	35	30	26	30	26	23	20
7	58	45	37	31	54	42	35	29	37	31	26	32	27	23	27	23	20	18
8	54	41	33	27	50	38	31	26	34	28	23	29	24	21	25	21	18	16
9	50	37	29	24	46	35	28	23	31	25	21	27	22	19	23	19	16	14
10	47	34	27	22	43	32	25	21	28	23	19	25	20	17	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8436	8436	8436
5°	8462	8223	8228
10°	8386	8033	7993
15°	8278	7819	7738
20°	8123	7573	7456
25°	7933	7290	7160
30°	7737	7036	6861
35°	7518	6767	6621
40°	7310	6522	6365
45°	7079	6288	6161
50°	6848	6055	5934
55°	6597	5818	5731
60°	6352	5577	5522
65°	6098	5319	5274
70°	5718	5030	5022
75°	5236	4699	4763
80°	4684	4372	4467
85°	4170	4150	4296



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.3	1.8
10°-20°	211.8	5.1
20°-30°	316.7	7.7
30°-40°	378.3	9.1
40°-50°	395.8	9.6
50°-60°	371.4	9.0
60°-70°	310.2	7.5
70°-80°	221.9	5.4
80°-90°	133.7	3.2
90°-100°	101.0	2.4
100°-110°	146.5	3.5
110°-120°	246.0	5.9
120°-130°	284.6	6.9
130°-140°	289.6	7.0
140°-150°	263.3	6.4
150°-160°	210.6	5.1
160°-170°	135.9	3.3
170°-180°	46.8	1.1
0°-30°	602.8	14.6
0°-40°	981.1	23.7
0°-60°	1748.2	42.2
0°-90°	2414.1	58.3
90°-120°	493.4	11.9
90°-150°	1330.9	32.2
90°-180°	1724.0	41.7
0°-180°	4138.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	784	784	784	784	784	
5°	785	783	778	784	784	74
15°	747	749	749	757	756	210
25°	674	683	686	696	697	311
35°	580	594	605	618	622	363
45°	475	495	516	532	540	366
55°	362	390	421	443	451	324
65°	250	284	321	346	355	247
75°	136	176	219	246	257	145
85°	42	85	130	158	167	44
90°	12	57	105	135	145	9
95°	32	52	96	124	134	35
105°	116	139	144	106	112	123
115°	209	223	256	279	288	206
125°	291	295	320	338	346	260
135°	361	363	373	389	393	278
145°	416	417	418	425	429	260
155°	457	456	456	458	456	210
165°	482	481	480	483	481	136
175°	493	491	492	494	491	47
180°	493	493	493	493	493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7
2.5°	787.1	786.6	786.2	785.7	785.3	784.4	783.3	782.0	780.8	779.6	780.8
5°	784.6	784.2	783.7	783.4	783.0	782.3	781.1	780.0	778.9	777.7	779.3
7.5°	776.8	776.9	777.0	777.1	777.1	776.7	775.5	774.5	773.3	772.3	774.1
10°	770.1	770.4	770.8	771.2	771.5	771.3	770.3	769.4	768.4	767.4	769.4
12.5°	761.8	762.4	762.9	763.4	763.9	763.9	763.3	762.6	762.0	761.3	763.0
15°	747.0	747.5	748.1	748.7	749.3	749.4	749.3	749.1	748.9	748.7	750.6
17.5°	728.2	729.4	730.5	731.6	732.7	733.3	733.2	733.1	733.0	733.0	734.7
20°	714.5	715.7	716.8	718.0	719.1	719.8	720.2	720.6	721.0	721.4	723.1
22.5°	700.2	701.3	702.5	703.6	704.7	705.6	706.1	706.6	707.2	707.7	709.9
25°	674.4	676.3	678.2	680.1	682.0	683.2	683.8	684.4	684.9	685.5	687.9
27.5°	648.5	650.6	652.8	654.9	657.1	658.8	660.0	661.2	662.4	663.7	665.8
30°	630.0	632.5	635.0	637.4	639.8	641.9	643.4	644.9	646.5	647.9	650.2
32.5°	609.5	612.3	615.1	617.8	620.6	623.0	624.9	627.0	628.9	630.9	633.3
35°	580.5	583.5	586.6	589.6	592.6	595.4	597.9	600.3	602.8	605.3	608.1
37.5°	549.8	553.2	556.6	560.0	563.5	566.6	569.7	572.7	575.8	578.8	582.0
40°	529.3	532.7	536.1	539.6	542.9	546.6	550.3	554.2	557.9	561.7	564.9
42.5°	506.7	510.9	515.1	519.3	523.4	527.5	531.4	535.4	539.3	543.3	546.8
45°	474.7	479.2	483.7	488.3	492.8	497.5	502.2	507.0	511.8	516.5	520.1
47.5°	441.0	446.2	451.3	456.5	461.6	466.9	472.4	477.8	483.2	488.6	492.7
50°	419.1	424.4	429.7	435.1	440.4	446.0	451.9	457.8	463.7	469.5	473.9
52.5°	395.9	401.5	407.2	412.8	418.4	424.4	431.0	437.4	443.9	450.4	454.9
55°	362.0	368.2	374.5	380.7	387.0	393.5	400.4	407.2	414.0	420.9	426.0
57.5°	328.8	335.3	341.9	348.4	355.0	361.9	369.4	376.9	384.3	391.8	397.0
60°	305.7	312.4	319.3	326.1	333.0	340.2	348.1	355.8	363.5	371.4	376.7
62.5°	283.7	290.7	297.7	304.7	311.7	319.3	327.5	335.7	344.0	352.2	357.5
65°	250.1	257.6	264.9	272.3	279.7	287.6	296.0	304.3	312.7	321.0	326.7
67.5°	216.0	223.8	231.7	239.5	247.4	255.6	264.1	272.6	281.0	289.6	295.8
70°	192.1	200.2	208.4	216.5	224.7	233.3	242.5	251.5	260.7	269.8	275.8
72.5°	170.2	178.4	186.5	194.7	202.8	211.7	221.0	230.5	239.9	249.2	255.5
75°	135.7	144.6	153.6	162.5	171.4	180.6	190.0	199.6	209.0	218.6	224.8
77.5°	105.7	114.7	123.7	132.6	141.6	150.9	160.5	170.1	179.6	189.1	195.8
80°	84.5	93.8	103.1	112.4	121.7	131.3	141.1	151.0	160.9	170.7	177.2
82.5°	66.0	75.5	85.0	94.4	103.9	113.6	123.6	133.6	143.7	153.7	160.1
85°	41.8	51.3	60.8	70.3	79.7	89.5	99.6	109.7	119.7	129.8	136.2
87.5°	22.7	32.4	42.0	51.6	61.2	70.9	80.9	90.7	100.6	110.6	117.0
90°	11.5	21.6	31.7	41.8	51.9	62.3	73.1	83.8	94.5	105.3	112.0
92.5°	17.2	25.4	33.5	41.7	49.9	59.1	69.4	79.7	90.1	100.4	107.2
95°	31.7	35.8	39.9	43.9	47.9	55.1	65.3	75.5	85.7	95.9	102.3
97.5°	53.2	58.5	63.6	68.8	74.0	78.1	81.1	84.1	87.2	90.2	96.4
100°	69.6	77.3	85.0	92.7	100.4	102.2	98.2	94.3	90.3	86.3	92.5
102.5°	88.2	94.9	101.5	108.2	114.8	115.4	110.1	104.8	99.5	94.2	97.6
105°	116.0	121.4	126.9	132.3	137.8	140.9	141.8	142.6	143.4	144.2	135.2
107.5°	144.4	149.0	153.6	158.2	162.7	169.5	178.4	187.3	196.2	205.0	199.6
110°	163.4	167.5	171.5	175.5	179.6	185.9	194.4	202.8	211.3	219.8	222.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.1	185.5	188.9	192.3	195.7	201.5	209.7	217.8	226.0	234.2	239.0
115°	209.0	211.8	214.6	217.4	220.0	225.3	232.8	240.4	247.9	255.5	260.9
117.5°	235.7	237.7	239.8	241.7	243.8	248.2	254.9	261.7	268.6	275.3	280.5
120°	251.8	253.5	255.1	256.8	258.4	262.6	269.0	275.6	282.1	288.6	293.6
122.5°	268.7	269.9	270.9	272.1	273.1	276.8	283.1	289.3	295.6	301.9	306.6
125°	291.2	291.9	292.5	293.2	293.8	297.0	302.9	308.7	314.5	320.3	324.5
127.5°	313.7	314.2	314.7	315.1	315.6	318.3	323.3	328.2	333.1	338.1	342.1
130°	327.8	328.3	328.7	329.2	329.7	332.0	336.1	340.2	344.3	348.5	352.4
132.5°	340.6	341.2	341.9	342.5	343.1	345.0	348.3	351.6	354.9	358.2	362.0
135°	361.0	361.3	361.7	361.9	362.2	363.6	366.0	368.4	370.8	373.2	376.9
137.5°	378.5	379.0	379.4	379.8	380.3	381.2	382.6	383.9	385.3	386.6	390.0
140°	389.5	390.0	390.4	390.9	391.4	392.1	392.9	393.7	394.5	395.3	398.5
142.5°	400.3	400.6	401.0	401.4	401.7	402.0	402.4	402.8	403.1	403.5	406.3
145°	415.5	415.9	416.3	416.6	417.0	417.3	417.4	417.6	417.8	417.9	419.6
147.5°	428.9	429.3	429.7	430.1	430.4	430.7	430.9	431.0	431.2	431.4	431.9
150°	437.7	438.0	438.2	438.5	438.7	438.9	439.0	439.2	439.4	439.5	439.7
152.5°	445.6	445.7	445.9	446.0	446.1	446.2	446.3	446.4	446.5	446.6	446.9
155°	456.7	456.6	456.4	456.3	456.2	456.1	456.2	456.2	456.3	456.4	456.8
157.5°	465.5	465.4	465.4	465.4	465.4	465.3	465.2	465.1	465.0	465.0	465.5
160°	470.7	470.6	470.5	470.4	470.3	470.3	470.2	470.1	470.0	469.9	470.4
162.5°	475.6	475.5	475.2	475.1	474.8	474.7	474.6	474.5	474.4	474.3	474.9
165°	481.7	481.4	481.2	480.9	480.7	480.5	480.5	480.4	480.3	480.2	480.9
167.5°	486.4	486.1	485.8	485.4	485.1	484.9	484.9	484.9	484.9	484.9	485.6
170°	489.0	488.7	488.4	488.0	487.7	487.5	487.5	487.5	487.5	487.5	488.2
172.5°	490.7	490.4	490.0	489.6	489.2	489.0	489.1	489.2	489.3	489.3	489.9
175°	493.0	492.6	492.2	491.8	491.4	491.2	491.3	491.4	491.5	491.5	492.1
177.5°	493.6	493.3	492.9	492.6	492.3	492.2	492.3	492.3	492.4	492.4	492.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	783.7	783.7	783.7	783.7	783.7	783.7	783.7	783.7
2.5°	782.0	783.3	784.4	785.0	784.8	784.6	784.5	784.4
5°	780.7	782.3	783.7	784.4	784.2	784.1	783.9	783.7
7.5°	776.0	778.0	779.8	780.6	780.4	780.2	780.0	779.8
10°	771.3	773.1	775.0	775.8	775.4	775.0	774.7	774.3
12.5°	764.8	766.5	768.3	769.0	768.6	768.3	767.8	767.4
15°	752.4	754.4	756.3	757.1	756.9	756.8	756.5	756.4
17.5°	736.4	738.1	739.8	740.5	740.3	740.0	739.7	739.5
20°	724.8	726.5	728.2	729.1	729.4	729.5	729.7	729.9
22.5°	712.0	714.2	716.3	717.4	717.3	717.1	717.1	716.9
25°	690.5	692.9	695.4	696.6	696.6	696.6	696.6	696.6
27.5°	667.9	670.0	672.1	673.3	673.4	673.6	673.8	673.9
30°	652.5	654.8	657.0	658.2	658.2	658.2	658.2	658.2
32.5°	635.7	638.1	640.6	642.0	642.5	642.9	643.4	643.8
35°	611.0	613.8	616.6	618.5	619.2	620.0	620.7	621.5
37.5°	585.2	588.5	591.7	593.6	594.2	594.8	595.4	596.1
40°	568.2	571.4	574.6	576.6	577.4	578.1	578.9	579.7
42.5°	550.3	553.8	557.4	559.7	560.8	561.8	562.9	563.9
45°	523.7	527.3	530.9	533.5	535.0	536.5	538.0	539.6
47.5°	496.8	500.8	504.9	507.5	508.7	509.9	511.0	512.2
50°	478.3	482.6	487.0	489.8	491.1	492.4	493.8	495.1
52.5°	459.4	464.0	468.5	471.6	473.2	474.8	476.5	478.1
55°	431.1	436.3	441.3	444.7	446.2	447.7	449.2	450.8
57.5°	402.2	407.3	412.5	416.0	417.8	419.6	421.3	423.1
60°	382.0	387.3	392.6	396.3	398.4	400.5	402.6	404.6
62.5°	362.9	368.2	373.5	377.1	379.0	381.0	382.9	384.8
65°	332.4	338.0	343.7	347.6	349.4	351.3	353.3	355.1
67.5°	302.0	308.3	314.5	318.4	319.9	321.6	323.2	324.7
70°	281.9	288.0	294.1	298.0	299.9	301.8	303.7	305.7
72.5°	261.7	267.9	274.2	278.3	280.1	282.0	283.9	285.8
75°	231.1	237.3	243.6	247.9	250.1	252.4	254.7	257.0
77.5°	202.4	209.0	215.6	219.7	221.5	223.2	225.0	226.7
80°	183.6	190.0	196.6	200.7	202.6	204.5	206.4	208.3
82.5°	166.6	173.0	179.4	183.6	185.6	187.4	189.3	191.2
85°	142.7	149.1	155.6	159.7	161.6	163.5	165.4	167.3
87.5°	123.5	130.0	136.6	140.8	142.8	144.6	146.6	148.5
90°	118.8	125.6	132.3	136.8	138.8	140.9	142.9	145.0
92.5°	114.0	120.8	127.7	132.0	133.8	135.7	137.5	139.3
95°	108.8	115.2	121.6	125.9	127.8	129.6	131.5	133.5
97.5°	102.8	109.1	115.4	119.5	121.5	123.5	125.5	127.4
100°	98.7	104.8	111.0	115.0	117.0	119.0	121.0	122.9
102.5°	100.9	104.3	107.6	110.3	112.3	114.4	116.4	118.5
105°	126.0	117.0	107.9	104.3	106.2	108.0	109.8	111.7
107.5°	194.1	188.7	183.1	175.9	166.6	157.4	148.2	139.1
110°	224.3	226.6	228.9	224.9	214.7	204.6	194.5	184.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	243.9	248.7	253.5	255.5	254.8	254.0	253.2	252.4
115°	266.2	271.6	277.0	280.5	282.4	284.3	286.1	288.0
117.5°	285.7	290.8	296.0	299.3	300.8	302.4	303.9	305.5
120°	298.6	303.6	308.7	311.9	313.2	314.5	315.8	317.2
122.5°	311.2	315.9	320.6	323.6	325.0	326.4	327.8	329.1
125°	328.6	332.8	337.0	339.7	341.3	342.8	344.2	345.7
127.5°	346.1	350.2	354.2	356.7	357.8	359.0	360.1	361.3
130°	356.3	360.2	364.2	366.6	367.6	368.6	369.6	370.6
132.5°	365.7	369.6	373.3	375.8	376.8	377.9	379.0	380.0
135°	380.6	384.3	387.9	390.0	390.8	391.5	392.2	392.9
137.5°	393.5	396.8	400.2	402.3	403.1	403.9	404.6	405.4
140°	401.7	404.9	408.1	410.0	410.8	411.6	412.4	413.2
142.5°	409.0	411.9	414.7	416.5	417.2	417.8	418.6	419.3
145°	421.3	423.0	424.7	425.9	426.6	427.4	428.2	428.9
147.5°	432.6	433.2	433.8	434.3	434.6	434.9	435.2	435.5
150°	439.9	440.0	440.2	440.3	440.5	440.6	440.8	440.9
152.5°	447.2	447.4	447.8	447.8	447.4	447.2	446.9	446.5
155°	457.2	457.6	458.0	458.0	457.5	457.0	456.5	456.1
157.5°	465.9	466.4	466.9	466.8	466.2	465.6	465.0	464.3
160°	470.9	471.4	471.9	471.9	471.3	470.8	470.2	469.6
162.5°	475.5	476.1	476.5	476.6	476.1	475.6	475.1	474.6
165°	481.5	482.2	482.8	482.8	482.2	481.8	481.2	480.6
167.5°	486.2	486.8	487.5	487.5	486.8	486.2	485.6	484.9
170°	488.9	489.5	490.2	490.2	489.5	488.9	488.2	487.5
172.5°	490.6	491.2	491.9	491.9	491.1	490.4	489.8	489.0
175°	492.7	493.3	493.8	493.8	493.2	492.5	491.9	491.2
177.5°	493.5	494.0	494.6	494.5	493.8	493.2	492.5	491.9
180°	493.0	493.0	493.0	493.0	493.0	493.0	493.0	493.0

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