

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: P332152-927

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332152-927  
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-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: 4021.0 lumens  
Efficiency: N/A  
Efficacy: 106.7 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

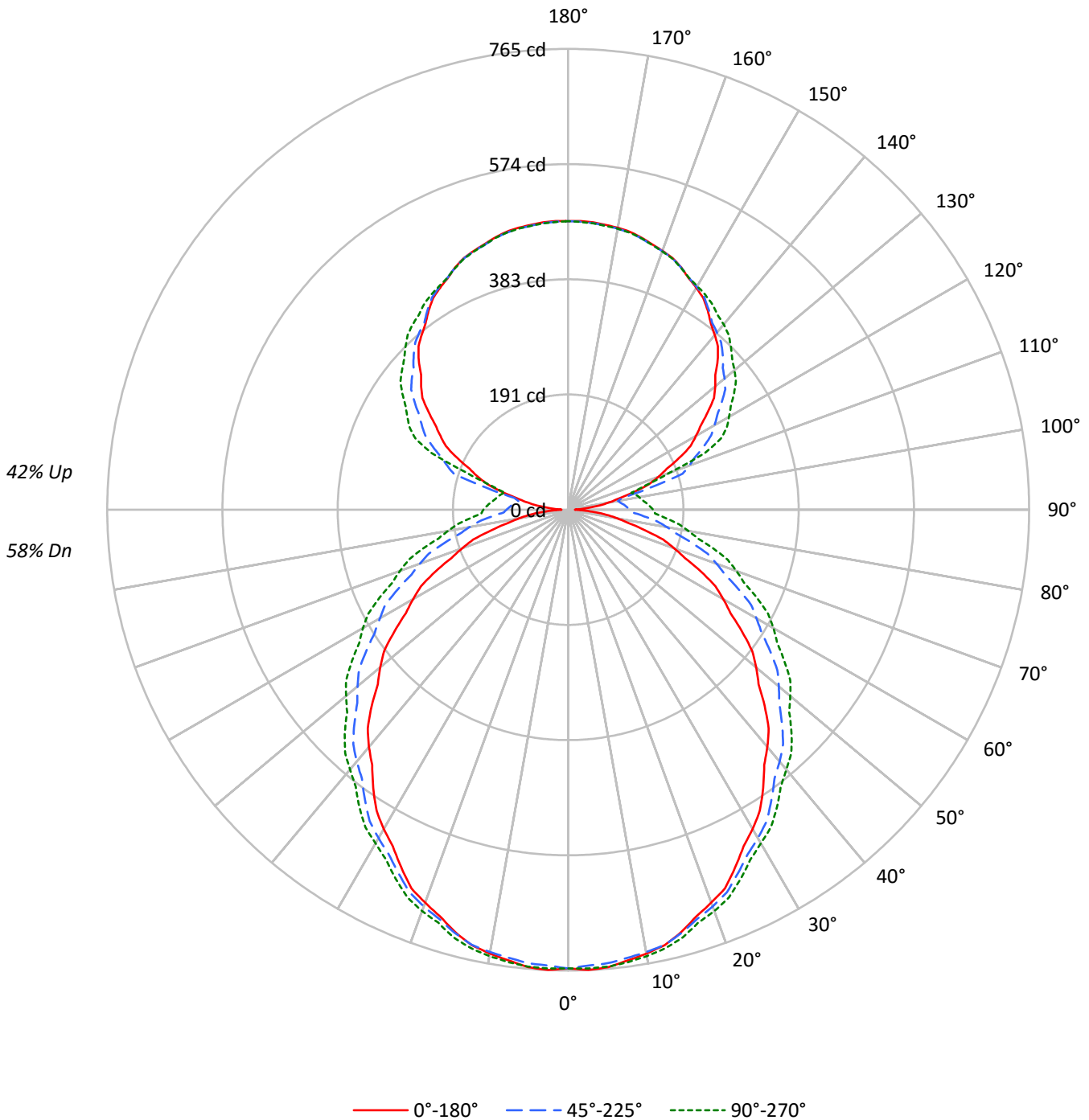
Input Watts (W): 37.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332152-927

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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	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°	8196	8196	8196
5°	8222	7990	7994
10°	8148	7806	7766
15°	8043	7597	7518
20°	7893	7358	7245
25°	7708	7084	6957
30°	7517	6836	6666
35°	7305	6575	6434
40°	7102	6337	6184
45°	6877	6109	5986
50°	6655	5883	5766
55°	6409	5652	5569
60°	6171	5417	5366
65°	5924	5168	5126
70°	5555	4887	4879
75°	5090	4566	4628
80°	4551	4249	4341
85°	4050	4032	4175



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.2	1.8
10°-20°	205.8	5.1
20°-30°	307.8	7.7
30°-40°	367.5	9.1
40°-50°	384.5	9.6
50°-60°	360.9	9.0
60°-70°	301.4	7.5
70°-80°	215.6	5.4
80°-90°	129.9	3.2
90°-100°	98.1	2.4
100°-110°	142.3	3.5
110°-120°	239.0	5.9
120°-130°	276.5	6.9
130°-140°	281.4	7.0
140°-150°	255.9	6.4
150°-160°	204.6	5.1
160°-170°	132.1	3.3
170°-180°	45.5	1.1
0°-30°	585.7	14.6
0°-40°	953.3	23.7
0°-60°	1698.6	42.2
0°-90°	2345.6	58.3
90°-120°	479.4	11.9
90°-150°	1293.2	32.2
90°-180°	1675.0	41.7
0°-180°	4021.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	761	761	761	761	761	
5°	762	760	756	762	761	72
15°	726	728	728	735	735	204
25°	655	663	666	676	677	302
35°	564	577	588	600	604	353
45°	461	481	502	517	524	356
55°	352	379	409	430	438	315
65°	243	276	312	336	345	240
75°	132	171	212	239	250	141
85°	41	82	126	153	163	43
90°	11	56	102	131	141	8
95°	31	50	93	120	130	34
105°	113	135	140	103	108	119
115°	203	216	248	271	280	201
125°	283	287	311	329	336	253
135°	351	353	363	378	382	270
145°	404	405	406	413	417	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	



TEST NUMBER: P332152-927

CATALOG NUMBER: S123DIW-S775D460U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	764.8	764.3	763.9	763.4	763.0	762.2	761.0	759.9	758.7	757.5	758.7
5°	762.3	761.9	761.5	761.2	760.8	760.1	759.0	757.9	756.8	755.7	757.2
7.5°	754.8	754.9	754.9	755.0	755.1	754.6	753.5	752.5	751.4	750.4	752.2
10°	748.2	748.5	748.9	749.3	749.6	749.4	748.5	747.6	746.6	745.7	747.6
12.5°	740.2	740.8	741.2	741.8	742.3	742.3	741.6	741.0	740.4	739.7	741.4
15°	725.8	726.4	726.9	727.5	728.0	728.2	728.0	727.9	727.6	727.5	729.3
17.5°	707.6	708.7	709.8	710.8	711.9	712.5	712.4	712.3	712.3	712.2	713.8
20°	694.3	695.4	696.5	697.6	698.7	699.4	699.8	700.2	700.5	700.9	702.6
22.5°	680.3	681.4	682.5	683.7	684.8	685.6	686.1	686.6	687.1	687.6	689.8
25°	655.3	657.1	658.9	660.8	662.7	663.8	664.4	665.0	665.5	666.1	668.4
27.5°	630.1	632.2	634.3	636.4	638.5	640.1	641.3	642.5	643.6	644.8	646.9
30°	612.1	614.6	617.0	619.3	621.7	623.7	625.1	626.6	628.1	629.5	631.8
32.5°	592.2	594.9	597.6	600.3	603.0	605.3	607.2	609.2	611.1	613.0	615.4
35°	564.0	567.0	570.0	572.9	575.8	578.5	580.9	583.3	585.7	588.1	590.9
37.5°	534.2	537.5	540.8	544.2	547.5	550.6	553.6	556.5	559.4	562.4	565.5
40°	514.3	517.6	520.9	524.3	527.5	531.1	534.7	538.4	542.1	545.8	548.9
42.5°	492.3	496.5	500.5	504.5	508.6	512.5	516.3	520.2	524.0	527.9	531.3
45°	461.2	465.6	470.0	474.4	478.9	483.4	488.0	492.6	497.3	501.8	505.3
47.5°	428.5	433.6	438.6	443.5	448.5	453.7	459.0	464.2	469.5	474.8	478.7
50°	407.3	412.4	417.6	422.8	427.9	433.3	439.1	444.8	450.5	456.2	460.4
52.5°	384.7	390.1	395.6	401.1	406.5	412.4	418.7	425.0	431.3	437.6	442.0
55°	351.7	357.7	363.8	369.9	376.0	382.4	389.0	395.7	402.3	408.9	413.9
57.5°	319.5	325.8	332.2	338.5	344.9	351.6	358.9	366.2	373.4	380.7	385.7
60°	297.0	303.6	310.2	316.9	323.5	330.6	338.2	345.7	353.2	360.8	366.0
62.5°	275.7	282.5	289.3	296.0	302.9	310.2	318.2	326.2	334.2	342.2	347.4
65°	243.0	250.3	257.4	264.6	271.8	279.4	287.6	295.6	303.8	311.9	317.4
67.5°	209.8	217.5	225.1	232.7	240.3	248.3	256.6	264.8	273.1	281.4	287.4
70°	186.6	194.6	202.5	210.4	218.3	226.7	235.6	244.4	253.3	262.1	268.0
72.5°	165.4	173.3	181.3	189.2	197.1	205.7	214.8	223.9	233.1	242.2	248.3
75°	131.9	140.5	149.2	157.9	166.5	175.5	184.7	193.9	203.1	212.4	218.4
77.5°	102.7	111.5	120.2	128.9	137.6	146.6	156.0	165.2	174.5	183.8	190.2
80°	82.1	91.2	100.2	109.2	118.3	127.5	137.1	146.7	156.3	165.9	172.1
82.5°	64.2	73.4	82.5	91.7	100.9	110.4	120.1	129.8	139.6	149.3	155.6
85°	40.6	49.8	59.1	68.3	77.5	87.0	96.8	106.5	116.3	126.1	132.4
87.5°	22.1	31.4	40.8	50.1	59.5	68.9	78.6	88.2	97.8	107.4	113.7
90°	11.2	21.0	30.8	40.6	50.5	60.5	71.0	81.4	91.8	102.3	108.8
92.5°	16.7	24.6	32.6	40.5	48.5	57.4	67.4	77.5	87.5	97.5	104.2
95°	30.8	34.8	38.7	42.7	46.6	53.6	63.5	73.4	83.3	93.2	99.4
97.5°	51.7	56.8	61.8	66.9	71.9	75.9	78.8	81.8	84.7	87.6	93.7
100°	67.7	75.1	82.5	90.1	97.5	99.3	95.5	91.7	87.8	83.9	89.9
102.5°	85.7	92.2	98.6	105.1	111.5	112.2	107.0	101.9	96.7	91.6	94.8
105°	112.7	118.0	123.3	128.6	133.9	136.9	137.8	138.6	139.3	140.1	131.3
107.5°	140.3	144.8	149.2	153.7	158.1	164.7	173.3	182.0	190.6	199.2	193.9
110°	158.8	162.7	166.6	170.6	174.5	180.6	188.9	197.1	205.3	213.6	215.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.0	180.2	183.5	186.9	190.1	195.7	203.7	211.7	219.6	227.6	232.3
115°	203.1	205.8	208.5	211.2	213.8	218.9	226.2	233.5	240.9	248.3	253.5
117.5°	229.0	231.0	233.0	234.9	236.9	241.1	247.7	254.3	260.9	267.5	272.5
120°	244.6	246.3	247.9	249.5	251.1	255.2	261.4	267.8	274.1	280.4	285.3
122.5°	261.1	262.2	263.2	264.4	265.4	268.9	275.0	281.1	287.2	293.3	297.9
125°	283.0	283.6	284.2	284.9	285.5	288.6	294.3	299.9	305.6	311.2	315.3
127.5°	304.8	305.3	305.8	306.2	306.7	309.3	314.1	318.9	323.7	328.5	332.4
130°	318.5	319.0	319.4	319.9	320.4	322.6	326.5	330.6	334.5	338.6	342.4
132.5°	331.0	331.5	332.2	332.8	333.4	335.3	338.4	341.7	344.8	348.1	351.7
135°	350.8	351.1	351.4	351.6	352.0	353.3	355.6	358.0	360.3	362.7	366.2
137.5°	367.7	368.2	368.6	369.1	369.6	370.4	371.8	373.0	374.4	375.7	379.0
140°	378.4	378.9	379.4	379.9	380.3	381.0	381.8	382.5	383.3	384.1	387.2
142.5°	389.0	389.3	389.7	390.0	390.3	390.6	390.9	391.3	391.7	392.1	394.7
145°	403.7	404.1	404.5	404.8	405.2	405.4	405.6	405.8	405.9	406.1	407.7
147.5°	416.8	417.2	417.5	417.9	418.2	418.5	418.7	418.8	419.0	419.1	419.7
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°	761.4	761.4	761.4	761.4	761.4	761.4	761.4	761.4
2.5°	759.9	761.0	762.2	762.7	762.6	762.4	762.2	762.2
5°	758.6	760.1	761.5	762.2	762.0	761.8	761.7	761.4
7.5°	754.0	755.9	757.7	758.5	758.3	758.1	757.9	757.6
10°	749.4	751.2	753.0	753.8	753.4	753.0	752.7	752.3
12.5°	743.1	744.8	746.5	747.2	746.8	746.5	746.1	745.7
15°	731.1	733.0	734.8	735.6	735.5	735.3	735.1	734.9
17.5°	715.5	717.2	718.8	719.5	719.3	719.0	718.7	718.5
20°	704.3	705.9	707.6	708.4	708.7	708.8	709.0	709.2
22.5°	691.8	694.0	696.0	697.0	697.0	696.8	696.7	696.6
25°	670.9	673.3	675.7	676.8	676.8	676.8	676.8	676.8
27.5°	649.0	651.0	653.1	654.2	654.3	654.5	654.7	654.8
30°	634.0	636.2	638.4	639.5	639.5	639.5	639.5	639.5
32.5°	617.7	620.0	622.4	623.8	624.2	624.7	625.1	625.6
35°	593.7	596.4	599.1	600.9	601.7	602.4	603.1	603.9
37.5°	568.6	571.8	574.9	576.8	577.3	578.0	578.5	579.2
40°	552.1	555.2	558.3	560.2	561.0	561.7	562.4	563.2
42.5°	534.7	538.1	541.6	543.8	544.9	545.9	546.9	548.0
45°	508.8	512.3	515.9	518.3	519.8	521.3	522.8	524.3
47.5°	482.7	486.6	490.6	493.1	494.2	495.4	496.5	497.6
50°	464.7	468.9	473.2	475.9	477.2	478.5	479.8	481.1
52.5°	446.4	450.8	455.2	458.2	459.8	461.4	463.0	464.5
55°	418.9	423.9	428.8	432.1	433.6	435.0	436.5	438.0
57.5°	390.8	395.8	400.8	404.2	405.9	407.7	409.3	411.1
60°	371.1	376.3	381.4	385.1	387.1	389.1	391.2	393.2
62.5°	352.6	357.7	362.9	366.4	368.3	370.2	372.1	373.9
65°	323.0	328.4	334.0	337.7	339.5	341.4	343.3	345.1
67.5°	293.4	299.5	305.5	309.3	310.9	312.4	314.0	315.5
70°	273.9	279.8	285.7	289.5	291.4	293.3	295.1	297.0
72.5°	254.3	260.3	266.4	270.4	272.2	274.0	275.8	277.7
75°	224.5	230.6	236.7	240.8	243.0	245.3	247.5	249.7
77.5°	196.6	203.0	209.5	213.5	215.2	216.9	218.6	220.3
80°	178.4	184.7	191.0	195.0	196.9	198.7	200.6	202.4
82.5°	161.8	168.1	174.4	178.4	180.3	182.1	183.9	185.8
85°	138.6	144.9	151.1	155.2	157.0	158.9	160.7	162.6
87.5°	120.0	126.4	132.7	136.8	138.7	140.5	142.4	144.3
90°	115.4	122.0	128.6	132.9	134.9	136.9	138.9	140.9
92.5°	110.7	117.4	124.1	128.3	130.0	131.8	133.6	135.4
95°	105.7	111.9	118.2	122.3	124.1	126.0	127.8	129.7
97.5°	99.9	106.0	112.1	116.1	118.0	120.0	121.9	123.8
100°	95.9	101.9	107.8	111.8	113.7	115.6	117.6	119.5
102.5°	98.1	101.3	104.6	107.2	109.2	111.1	113.1	115.1
105°	122.5	113.7	104.8	101.3	103.1	105.0	106.7	108.5
107.5°	188.6	183.3	177.9	170.9	161.9	153.0	144.0	135.1
110°	217.9	220.1	222.4	218.5	208.7	198.8	189.0	179.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	236.9	241.6	246.3	248.3	247.6	246.8	246.0	245.3
115°	258.6	263.9	269.1	272.6	274.4	276.2	278.0	279.8
117.5°	277.6	282.6	287.6	290.8	292.3	293.8	295.3	296.8
120°	290.2	295.0	299.9	303.0	304.3	305.5	306.9	308.2
122.5°	302.4	307.0	311.5	314.4	315.8	317.1	318.5	319.8
125°	319.3	323.4	327.4	330.1	331.6	333.0	334.5	335.9
127.5°	336.3	340.2	344.1	346.6	347.7	348.8	349.9	351.0
130°	346.2	350.0	353.9	356.2	357.2	358.1	359.1	360.0
132.5°	355.4	359.1	362.7	365.1	366.1	367.2	368.2	369.2
135°	369.8	373.4	376.9	379.0	379.7	380.4	381.0	381.8
137.5°	382.3	385.6	388.9	390.9	391.7	392.4	393.2	394.0
140°	390.3	393.4	396.5	398.4	399.2	399.9	400.7	401.5
142.5°	397.4	400.2	402.9	404.6	405.4	406.0	406.7	407.4
145°	409.3	411.0	412.6	413.8	414.5	415.3	416.1	416.8
147.5°	420.3	420.9	421.5	422.0	422.2	422.6	422.9	423.2
150°	427.4	427.5	427.7	427.9	428.0	428.1	428.3	428.4
152.5°	434.5	434.7	435.1	435.1	434.7	434.5	434.2	433.9
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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