

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: P334220

Luminaire Tested: **S124RDW-S350D935-4F0-1E-UDD-A**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P334220
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-31)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDW-S350D935-4F0-1E-UDD-A
Description: DEFINE 4 REGRESSED DIRECT LED LUMINAIRE, ASYMMETRIC DIFFUSER
PENDANT/SURFACE/WALL MOUNT, 350 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1179.3 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.22 / 1.39
Luminous Opening: Rectangular (W 4' x L: 0.33' x H: 0')
CIE Type: Direct

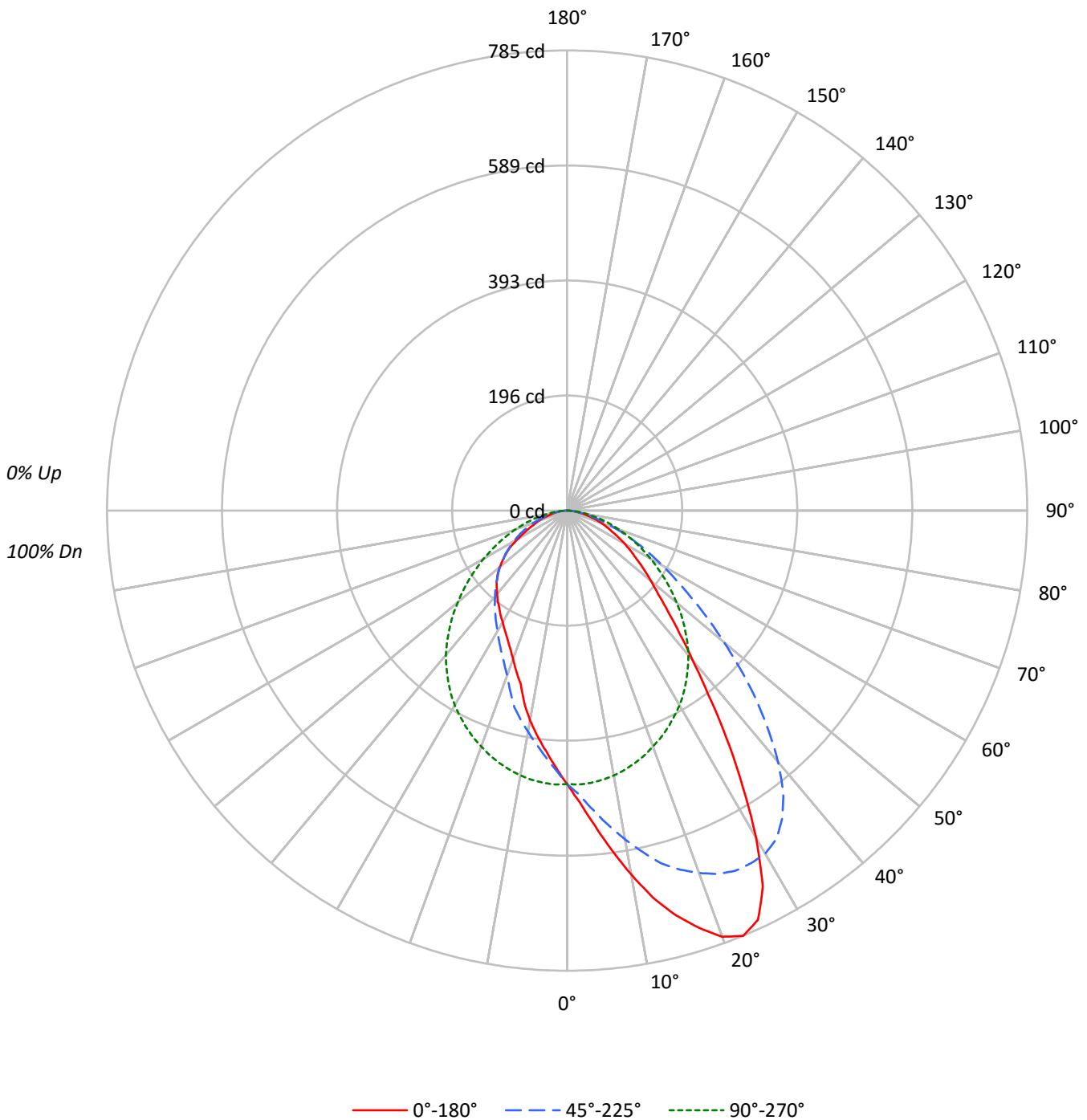
Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	76	70	90	81	75	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	59	71	64	59	68	63	58	66	61	57	55
5	79	67	58	52	77	66	58	52	64	57	51	62	56	51	60	55	50	48
6	73	61	52	46	71	60	52	46	58	51	46	56	50	45	55	49	45	43
7	68	55	47	41	66	54	47	41	53	46	41	52	45	40	50	44	40	38
8	64	51	42	37	62	50	42	37	49	42	37	47	41	36	46	40	36	34
9	59	47	39	33	58	46	38	33	45	38	33	44	38	33	43	37	33	31
10	56	43	35	30	55	43	35	30	42	35	30	41	34	30	40	34	30	28

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	3766	3766	3766
5°	4369	3778	3339
10°	5168	3761	2980
15°	5970	3727	2561
20°	6647	3679	2315
25°	6861	3632	2149
30°	6007	3575	2050
35°	4675	3490	1990
40°	3506	3393	1957
45°	2769	3238	1940
50°	2337	3059	1884
55°	2037	2863	1783
60°	1833	2659	1577
65°	1616	2437	1358
70°	1456	2209	1225
75°	1220	1959	1045
80°	1032	1669	981
85°	871	1306	871



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.2	3.8
10°-20°	136.4	11.6
20°-30°	213.7	18.1
30°-40°	237.3	20.1
40°-50°	210.3	17.8
50°-60°	163.9	13.9
60°-70°	107.2	9.1
70°-80°	52.6	4.5
80°-90°	12.8	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	395.3	33.5
0°-40°	632.6	53.6
0°-60°	1006.7	85.4
0°-90°	1179.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1179.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	466	466	466	466	466	
5°	539	513	466	422	412	54
15°	714	624	446	347	306	203
25°	770	678	408	266	241	344
35°	474	640	354	214	202	297
45°	242	456	284	170	170	191
55°	145	258	203	128	127	131
65°	85	132	128	83	71	85
75°	39	50	63	40	34	43
85°	9	10	14	10	9	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5
2.5°	498.5	500.2	498.5	498.3	496.4	495.9	495.1	492.7	488.2	485.5	486.1
5°	539.1	543.8	541.2	540.8	536.6	532.5	529.9	523.9	517.5	513.2	509.6
7.5°	584.2	587.0	585.1	583.1	575.9	573.7	567.5	560.3	549.6	541.5	534.2
10°	630.4	632.7	631.9	627.1	622.2	612.2	606.6	595.5	581.0	569.5	558.8
12.5°	675.9	678.4	670.3	671.8	661.5	654.1	644.4	629.7	612.4	596.8	582.7
15°	714.3	711.3	711.3	707.5	697.2	686.3	677.1	662.4	641.3	623.7	605.1
17.5°	745.9	747.2	745.7	736.1	728.6	717.5	700.9	684.2	666.0	642.3	623.9
20°	773.7	773.7	772.0	766.0	755.4	743.4	725.2	706.6	681.8	657.9	636.5
22.5°	785.0	785.7	783.6	778.9	769.7	758.1	743.2	724.2	698.5	670.9	643.0
25°	770.3	773.9	774.2	772.9	770.1	763.0	749.6	730.3	707.3	678.2	649.6
27.5°	722.9	727.6	729.5	733.6	741.3	744.2	742.5	729.5	707.3	678.6	650.2
30°	644.4	648.1	660.3	676.3	688.7	700.0	709.8	712.4	701.1	675.9	645.7
32.5°	557.1	562.6	574.8	592.3	615.0	636.1	661.1	674.4	676.9	664.3	636.8
35°	474.4	478.2	489.5	507.5	532.3	560.7	595.5	622.5	641.0	639.7	622.5
37.5°	395.1	400.4	411.8	426.7	451.1	487.4	520.3	556.6	589.7	605.8	597.2
40°	332.7	332.9	344.0	359.4	381.9	412.6	449.2	490.6	528.6	559.6	565.6
42.5°	283.5	283.5	289.8	306.8	321.4	349.8	384.4	425.4	471.4	508.5	526.9
45°	242.5	244.2	250.2	260.1	272.9	297.4	325.4	363.5	413.3	455.8	482.3
47.5°	210.1	213.2	216.7	225.7	236.3	253.4	277.3	313.0	354.3	401.5	438.2
50°	186.1	186.5	191.4	195.9	204.7	217.7	238.0	266.5	303.8	348.7	390.6
52.5°	165.4	165.2	167.7	173.7	180.4	189.8	205.3	230.6	262.6	301.7	345.3
55°	144.7	145.7	147.9	152.4	157.9	165.0	178.0	197.6	223.5	257.9	297.2
57.5°	128.9	129.5	131.6	133.3	138.5	143.8	154.3	168.4	191.2	219.9	258.5
60°	113.5	113.7	114.3	117.1	121.1	125.9	132.5	144.0	162.4	188.2	217.1
62.5°	98.5	98.9	99.8	101.7	104.5	107.5	114.5	123.1	137.6	158.6	184.0
65°	84.6	84.8	86.1	86.8	89.3	92.3	97.4	103.6	114.1	132.5	152.3
67.5°	72.9	72.9	72.9	74.1	75.9	78.0	81.4	86.7	95.1	107.0	125.4
70°	61.7	61.7	62.0	62.6	63.5	65.2	66.9	70.7	76.5	85.7	99.1
72.5°	51.1	51.3	51.7	51.7	52.1	53.4	54.5	56.6	60.5	66.9	77.1
75°	39.1	39.7	40.6	41.4	42.3	42.1	43.4	44.9	46.2	50.4	56.6
77.5°	30.8	30.5	30.5	31.2	31.4	31.6	32.5	33.8	35.0	37.2	39.5
80°	22.2	22.2	22.7	22.9	22.7	22.9	23.9	24.4	24.8	25.6	27.6
82.5°	15.4	15.8	15.4	15.6	15.8	16.0	16.7	16.7	17.1	17.3	17.9
85°	9.4	9.6	9.8	9.4	9.4	9.4	9.8	10.0	10.3	10.2	10.5
87.5°	4.1	3.9	4.1	4.1	4.3	4.1	4.3	4.7	4.3	4.5	4.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5
2.5°	484.2	481.6	480.3	477.2	473.7	471.8	470.1	467.7	464.5	461.1	458.6
5°	505.1	500.6	494.9	488.2	482.1	476.3	471.2	466.2	460.3	454.3	448.3
7.5°	525.7	517.7	509.0	498.7	488.7	479.5	471.2	463.2	453.9	445.7	438.0
10°	547.5	535.5	522.2	508.1	494.0	481.8	469.7	458.8	446.8	436.1	427.1
12.5°	565.2	550.6	533.8	515.4	497.7	482.3	468.0	453.0	438.9	427.1	414.3
15°	585.1	565.8	544.2	523.1	501.1	481.0	462.4	445.9	430.3	413.9	402.4
17.5°	598.9	576.5	550.9	526.5	501.3	478.0	456.9	437.8	419.9	403.6	390.0
20°	610.9	585.5	556.4	527.6	498.5	473.1	450.0	428.2	409.6	391.5	377.4
22.5°	617.7	588.9	556.4	525.9	495.5	467.5	441.5	418.6	397.9	379.9	363.9
25°	618.0	588.0	555.4	520.9	487.8	458.6	432.3	407.7	385.1	367.1	350.6
27.5°	616.5	581.8	549.1	513.9	479.9	448.9	421.6	395.5	373.1	353.9	337.0
30°	612.0	574.1	538.3	501.5	466.9	437.4	408.3	383.5	360.0	339.8	322.7
32.5°	602.2	564.7	525.6	487.6	452.4	421.8	394.5	369.5	346.6	325.9	307.5
35°	588.7	550.6	508.8	470.1	435.7	404.1	378.2	354.1	332.1	310.1	291.0
37.5°	573.1	533.3	492.1	449.6	415.4	385.3	361.1	338.0	316.5	296.4	275.2
40°	549.1	513.5	470.7	428.6	393.2	364.5	342.5	322.0	300.4	280.4	259.2
42.5°	519.9	491.0	447.5	405.3	370.5	343.0	322.9	303.0	283.8	264.7	242.3
45°	486.8	463.9	423.3	382.7	347.6	320.1	301.3	283.6	266.3	247.9	227.1
47.5°	450.0	433.1	397.7	355.3	322.4	297.2	279.1	264.5	249.2	230.6	211.8
50°	411.3	401.3	367.5	329.5	298.5	275.7	257.1	243.6	231.4	213.7	197.4
52.5°	369.9	365.8	338.5	302.6	272.9	250.7	235.5	223.7	211.3	197.4	182.3
55°	327.8	330.6	306.4	275.0	246.8	228.0	213.5	203.4	192.9	180.4	168.6
57.5°	284.0	294.7	276.7	248.3	221.0	203.4	192.3	183.3	174.4	163.9	153.2
60°	245.5	254.1	244.9	220.7	197.6	181.4	171.2	164.7	155.8	146.4	138.7
62.5°	207.9	217.3	212.8	194.4	173.3	160.0	151.3	145.3	139.3	131.4	123.3
65°	177.6	183.6	181.0	167.5	152.3	140.4	132.1	127.6	121.6	115.6	108.5
67.5°	142.1	153.9	152.1	144.5	129.9	120.5	114.7	110.5	104.9	100.4	95.3
70°	111.8	122.6	122.4	116.5	109.4	100.8	97.0	93.6	88.7	84.4	80.4
72.5°	86.5	96.1	97.9	93.8	89.5	83.5	79.9	77.8	73.1	70.5	67.5
75°	64.1	71.2	73.1	73.1	70.9	67.5	64.3	62.8	59.4	56.8	54.9
77.5°	45.1	50.0	52.8	53.4	53.6	52.3	49.2	48.1	45.5	44.5	42.5
80°	29.7	32.7	36.1	37.2	38.2	37.8	36.7	35.9	33.5	32.5	31.8
82.5°	18.2	19.5	22.2	25.0	24.4	25.8	24.8	24.2	22.6	22.4	21.6
85°	10.7	10.9	11.3	13.0	13.9	14.3	14.5	14.1	13.5	13.5	12.2
87.5°	4.5	4.3	4.7	4.7	4.9	5.6	6.2	6.4	5.8	5.3	4.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5	466.5
2.5°	456.0	454.1	451.7	448.9	445.5	442.5	441.2	442.3	442.9	441.3	441.2
5°	444.2	439.5	435.7	430.1	425.6	421.8	419.2	418.0	418.4	415.4	414.7
7.5°	431.0	425.9	419.7	413.3	407.3	402.1	399.2	397.9	394.7	393.4	391.3
10°	418.4	410.9	404.9	397.0	389.8	383.3	380.1	377.4	374.2	372.7	369.5
12.5°	405.4	396.4	389.7	381.4	374.1	365.8	362.8	357.3	351.9	348.3	344.0
15°	393.4	382.9	374.8	365.0	356.4	347.4	339.3	330.3	326.9	319.7	315.6
17.5°	379.1	368.2	359.2	346.6	333.6	322.7	313.7	304.3	299.2	294.4	292.3
20°	365.0	355.3	341.3	326.1	311.3	298.9	291.9	286.3	280.6	277.4	275.2
22.5°	351.7	338.5	321.8	305.1	290.2	281.2	275.6	269.7	265.4	262.4	259.2
25°	336.5	320.1	303.0	284.2	274.1	265.6	259.2	254.5	251.7	247.7	246.2
27.5°	321.6	301.9	282.5	269.7	259.2	251.1	245.3	241.9	238.2	235.5	233.5
30°	303.9	283.8	266.9	254.9	244.2	237.8	233.3	229.1	226.3	224.2	222.7
32.5°	286.5	266.3	252.8	239.7	231.8	225.6	220.7	217.9	215.8	213.0	212.2
35°	269.7	251.9	239.5	227.8	219.2	213.5	209.8	206.6	204.7	203.9	203.4
37.5°	253.4	238.5	224.8	215.4	207.3	203.0	198.1	196.6	195.3	193.6	194.4
40°	238.0	224.2	212.4	202.3	196.0	191.2	188.5	186.7	185.5	185.5	185.5
42.5°	224.6	211.3	199.8	191.0	184.8	180.8	177.8	176.3	176.1	175.9	177.1
45°	210.7	198.3	186.7	179.1	173.9	169.7	168.0	166.7	166.7	167.5	167.7
47.5°	196.8	185.1	175.7	167.1	162.2	159.6	158.1	157.3	157.3	158.3	159.0
50°	184.2	172.7	163.5	156.0	151.5	149.1	147.7	147.4	147.7	147.7	149.1
52.5°	170.5	160.5	151.5	145.5	140.2	138.0	137.4	136.8	137.0	137.8	138.2
55°	157.1	147.9	139.3	133.3	129.5	128.0	126.3	126.5	126.1	126.5	126.5
57.5°	143.6	135.5	127.1	122.2	119.0	116.7	114.8	115.4	114.8	114.8	114.7
60°	130.6	121.6	115.2	110.9	107.1	105.3	103.6	103.9	103.4	103.0	102.3
62.5°	116.5	109.4	103.4	99.2	96.4	94.2	92.5	91.9	90.4	88.9	87.0
65°	103.0	96.8	91.4	87.4	84.6	82.9	81.6	80.4	77.6	74.6	73.1
67.5°	89.7	85.1	79.9	76.5	74.2	72.0	69.5	67.5	64.7	62.8	61.8
70°	76.9	72.6	68.2	65.0	62.6	60.5	57.7	56.4	54.5	53.8	52.8
72.5°	64.7	60.7	56.8	53.9	51.3	49.8	47.7	46.4	45.9	45.7	44.7
75°	52.3	49.1	46.1	43.4	41.4	40.2	39.3	38.3	38.0	36.3	35.3
77.5°	40.2	38.0	36.1	34.0	32.7	32.0	29.9	28.6	27.8	26.9	26.7
80°	29.7	28.2	26.3	25.2	23.1	22.4	21.6	21.4	21.2	21.1	20.9
82.5°	20.5	19.0	17.1	16.5	16.4	16.0	15.6	15.4	15.2	15.4	15.4
85°	11.3	10.5	10.5	10.3	10.2	10.0	9.8	9.8	9.6	9.8	9.6
87.5°	4.7	4.5	4.5	4.1	4.3	4.3	4.1	4.1	4.3	3.9	3.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	466.5	466.5	466.5	466.5
2.5°	440.0	440.4	439.1	438.7
5°	413.2	412.8	411.8	412.0
7.5°	389.8	388.5	389.5	388.0
10°	368.8	366.7	365.0	363.5
12.5°	340.0	338.3	335.9	336.8
15°	313.2	310.3	305.8	306.4
17.5°	289.1	289.5	286.8	287.6
20°	271.2	269.9	270.1	269.5
22.5°	258.8	257.1	255.4	254.1
25°	244.5	243.4	241.7	241.3
27.5°	232.0	231.8	231.0	230.1
30°	221.2	220.9	220.5	219.9
32.5°	211.7	211.5	211.1	211.3
35°	202.6	202.4	202.1	201.9
37.5°	194.2	194.7	194.4	194.4
40°	185.3	185.5	185.9	185.7
42.5°	178.0	178.0	178.6	177.8
45°	169.0	170.1	169.9	169.9
47.5°	159.4	160.7	160.9	160.9
50°	150.0	149.6	150.2	150.0
52.5°	138.5	138.7	138.5	138.3
55°	126.7	126.9	126.5	126.7
57.5°	114.1	113.3	113.9	113.5
60°	100.4	98.9	98.5	97.7
62.5°	85.0	84.0	82.5	83.5
65°	71.6	70.9	70.3	71.1
67.5°	60.9	60.5	60.5	60.1
70°	52.8	52.3	52.3	51.9
72.5°	44.5	44.0	44.2	44.0
75°	34.2	33.3	33.3	33.5
77.5°	26.7	26.5	26.9	26.3
80°	20.9	20.7	20.5	21.1
82.5°	15.0	15.0	15.0	15.8
85°	9.8	9.4	9.8	9.4
87.5°	4.3	4.1	3.9	4.1
90°	0.0	0.0	0.0	0.0

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