

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: P242240

Luminaire Tested: **S121RDR-S305D935-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242240
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-28)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121RDR-S305D935-X4F0-XX-UDD-A-W
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 905.9 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 1.23 / 1.1
Luminous Opening: Rectangular (W 3.88' x L: 0.09' x H: 0')
CIE Type: Direct

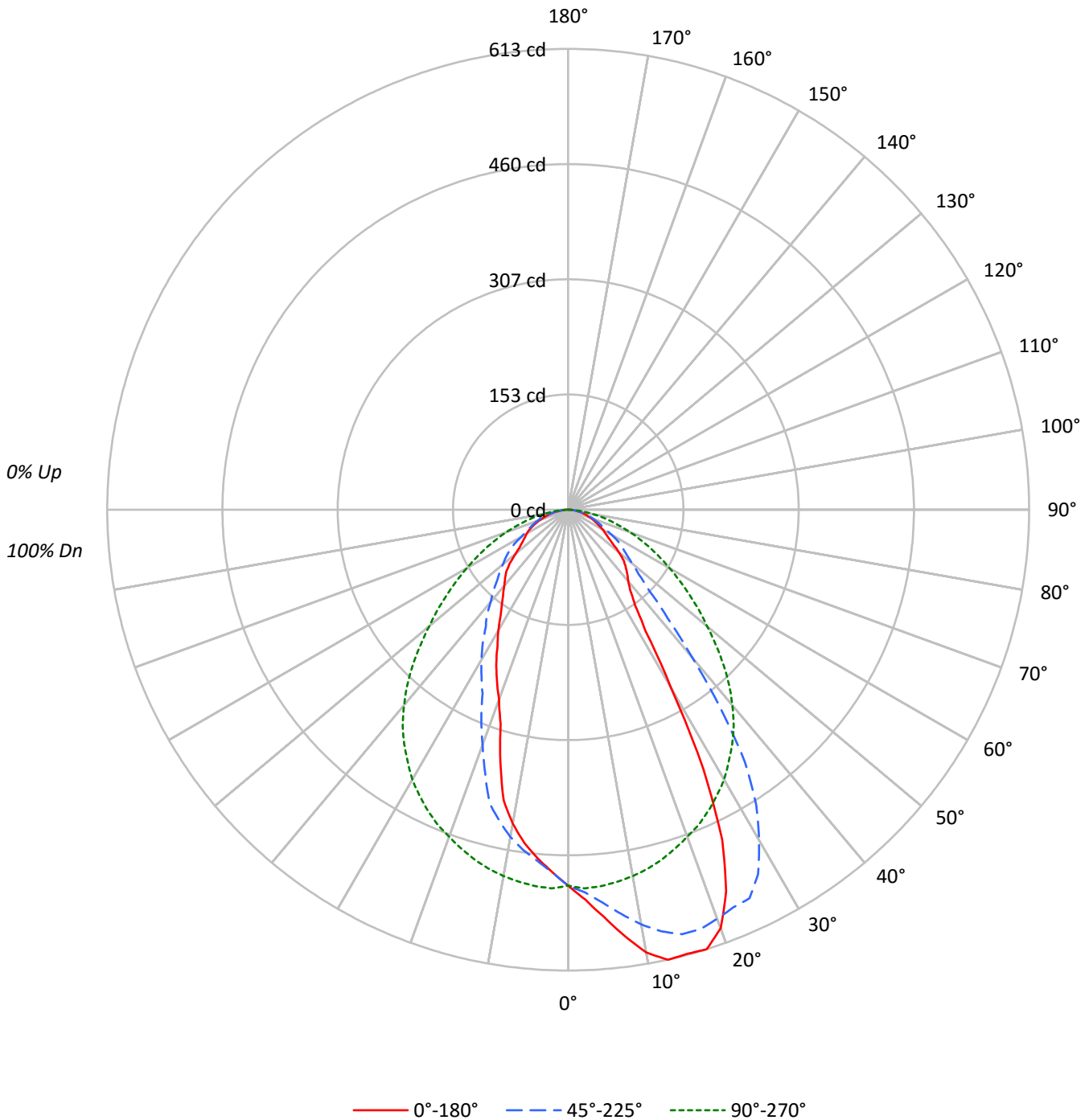
Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P242240

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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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78					76				
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	68					67				
4	88	77	69	64	85	76	69	63	73	67	62	71	66	61	69	65	61					59				
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54					52				
6	76	64	56	50	74	63	56	50	61	55	50	60	54	49	58	53	49					47				
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	48	44					43				
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40					39				
9	63	50	43	38	61	50	43	38	49	42	37	48	42	37	47	41	37					35				
10	59	47	40	35	58	46	39	35	45	39	35	44	39	34	44	38	34					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	14815	14815	14815
5°	16168	14946	13842
10°	17995	14887	12760
15°	18764	14773	10678
20°	18682	14599	8476
25°	15843	14437	7398
30°	9327	14188	6353
35°	5603	13756	5549
40°	4800	13131	5117
45°	4538	12240	4869
50°	4056	11118	4213
55°	3378	10146	3807
60°	3141	9244	3787
65°	2903	8420	3667
70°	2738	7589	3457
75°	2587	6709	3137
80°	2304	5614	2764
85°	2176	4420	2176



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	5.3
10°-20°	136.6	15.1
20°-30°	186.5	20.6
30°-40°	173.8	19.2
40°-50°	143.7	15.9
50°-60°	105.9	11.7
60°-70°	67.7	7.5
70°-80°	34.8	3.8
80°-90°	9.0	1.0
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°	371.0	41.0
0°-40°	544.8	60.1
0°-60°	794.4	87.7
0°-90°	905.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	905.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	500	500	500	500	500	
5°	544	524	502	469	465	54
15°	612	585	482	404	348	172
25°	485	570	442	270	226	210
35°	155	410	380	191	153	105
45°	108	153	292	134	116	83
55°	65	88	196	96	74	60
65°	41	48	120	56	52	41
75°	23	25	59	31	27	24
85°	6	7	13	7	6	7
90°	0	0	0	0	0	



TEST NUMBER: P242240

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0
2.5°	519.2	518.8	519.4	519.0	518.6	517.7	516.9	514.7	511.3	509.4	511.3
5°	543.6	545.1	544.6	543.8	542.1	540.6	537.2	535.2	529.2	524.5	525.8
7.5°	571.5	573.3	570.9	569.2	568.3	563.9	560.2	554.3	547.8	542.5	539.5
10°	598.1	598.7	598.0	596.5	593.3	588.6	583.1	576.5	568.3	560.2	554.7
12.5°	613.2	614.1	615.2	612.6	610.2	606.4	600.8	594.2	584.0	574.6	568.4
15°	611.7	612.4	614.5	613.6	612.4	610.7	607.5	602.1	594.9	584.6	575.8
17.5°	612.8	613.4	614.3	610.9	609.0	607.0	602.8	599.1	593.1	585.0	578.4
20°	592.5	601.7	600.6	605.1	607.0	606.8	602.8	595.7	587.4	579.2	576.1
22.5°	548.9	556.2	557.2	564.1	572.8	579.7	588.4	591.6	585.2	572.8	568.6
25°	484.6	489.9	495.1	505.1	514.3	533.7	551.3	564.7	572.0	570.3	562.2
27.5°	389.5	383.8	404.7	416.2	441.9	470.1	494.9	519.4	531.0	546.6	554.5
30°	272.6	272.0	287.8	307.7	346.3	372.2	418.6	457.9	488.6	507.7	529.2
32.5°	191.4	194.2	205.8	218.1	239.3	281.6	317.1	371.3	423.5	465.4	491.7
35°	154.9	155.3	157.9	165.2	178.2	201.7	229.3	282.0	352.8	409.8	449.1
37.5°	135.7	136.8	137.6	141.7	146.4	156.4	173.9	210.3	269.0	332.5	400.8
40°	124.1	125.0	125.8	127.1	129.9	134.6	146.1	163.5	197.4	255.8	331.8
42.5°	116.2	115.8	117.5	118.0	119.6	122.2	127.3	136.7	156.2	195.9	261.3
45°	108.3	108.8	108.8	109.6	110.9	112.4	114.5	120.3	130.3	152.8	204.1
47.5°	100.0	99.8	100.9	101.5	102.8	104.1	105.6	108.7	114.5	127.6	157.3
50°	88.0	88.3	90.4	92.3	94.2	95.9	97.7	99.6	103.4	110.5	128.8
52.5°	75.2	75.2	77.4	78.8	81.4	85.5	88.7	91.5	94.0	97.6	108.5
55°	65.4	65.6	66.4	67.5	69.4	71.4	75.6	80.5	84.6	87.6	93.6
57.5°	58.6	58.8	59.0	60.0	60.9	61.7	64.1	67.9	73.3	78.8	82.3
60°	53.0	52.8	52.8	53.4	54.1	55.1	56.4	57.9	60.9	66.7	73.1
62.5°	46.6	47.0	47.0	47.6	48.1	49.1	49.6	51.1	52.8	55.5	62.0
65°	41.4	41.7	41.4	41.9	42.3	42.9	43.8	44.6	46.1	47.7	50.4
67.5°	36.1	36.3	36.7	36.8	37.2	37.4	38.2	39.1	40.0	41.2	43.2
70°	31.6	31.6	31.6	32.0	32.3	32.3	32.9	33.3	34.2	35.3	36.5
72.5°	26.7	26.9	26.9	26.7	27.4	27.6	27.8	28.2	28.9	29.9	30.8
75°	22.6	22.2	22.2	22.4	22.9	22.9	23.1	23.3	23.9	24.6	25.2
77.5°	17.7	17.7	17.9	18.0	18.2	18.2	18.6	18.6	19.4	19.7	20.1
80°	13.5	13.9	14.1	13.9	13.9	14.1	14.1	14.5	14.7	14.9	15.2
82.5°	10.2	10.3	10.0	10.0	10.2	10.2	10.3	10.3	10.5	10.7	10.7
85°	6.4	6.4	6.6	6.4	6.6	6.4	6.4	6.8	6.6	6.6	6.8
87.5°	3.0	3.2	3.0	3.2	3.0	3.2	3.2	3.2	3.2	3.2	3.0
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°	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0
2.5°	510.7	510.5	509.6	507.5	506.0	503.2	503.2	504.2	499.3	495.9	495.7
5°	522.6	520.7	517.5	513.6	510.0	505.1	503.2	502.5	495.9	490.8	489.1
7.5°	535.2	530.5	525.0	518.6	512.6	505.7	502.1	499.3	490.8	484.6	480.8
10°	548.3	540.8	532.4	523.1	514.9	505.5	499.6	494.8	485.0	476.3	472.0
12.5°	560.0	549.5	538.7	526.7	515.4	503.6	495.5	489.1	477.6	467.3	462.0
15°	565.4	554.2	545.3	528.8	513.6	501.5	491.2	481.6	469.4	457.9	449.8
17.5°	570.1	557.7	546.1	530.5	512.8	497.2	484.8	472.6	459.4	447.4	437.4
20°	568.8	558.3	544.0	527.5	510.7	492.7	478.6	463.0	446.6	434.4	423.9
22.5°	561.3	552.7	537.8	522.0	505.8	486.5	470.5	453.6	433.5	420.1	408.3
25°	551.7	543.4	528.8	512.4	496.4	477.6	458.9	441.6	419.9	404.0	388.7
27.5°	544.2	531.8	517.1	498.9	483.5	465.6	445.9	428.4	405.1	387.4	369.8
30°	535.5	521.4	503.4	484.0	467.7	451.3	432.2	414.7	388.9	368.8	346.8
32.5°	510.7	510.9	489.5	467.9	450.4	432.9	415.8	397.2	371.6	347.9	325.4
35°	478.4	491.0	475.2	450.4	428.8	412.6	398.5	380.3	351.9	327.5	301.9
37.5°	435.2	457.3	459.2	433.5	409.6	390.6	376.7	361.5	332.9	306.6	281.2
40°	391.9	421.3	432.9	415.1	389.1	367.3	353.4	339.5	312.6	284.2	260.7
42.5°	338.9	386.5	401.0	395.7	367.9	344.4	329.7	317.1	291.0	263.2	239.9
45°	279.1	343.4	364.5	369.9	346.4	321.3	304.3	292.1	269.2	244.7	220.5
47.5°	224.3	294.9	329.7	335.4	322.9	298.5	279.1	266.4	248.1	227.1	203.0
50°	171.1	243.4	293.2	301.9	298.9	274.1	256.2	241.2	227.3	208.5	185.9
52.5°	136.1	194.6	253.8	269.9	270.9	251.3	232.5	218.8	205.3	190.4	169.9
55°	108.7	150.4	210.3	237.8	240.4	226.9	209.6	196.4	186.3	172.4	155.1
57.5°	91.5	116.4	168.4	205.5	206.6	202.8	186.3	175.4	166.9	154.9	139.7
60°	78.2	92.3	129.9	173.1	178.8	178.8	165.6	156.0	147.9	138.9	124.4
62.5°	67.7	75.4	98.5	137.6	152.1	154.3	146.1	137.6	131.6	122.6	109.2
65°	57.0	62.8	76.3	106.4	126.3	130.5	126.3	120.1	115.4	106.0	95.5
67.5°	46.8	52.4	60.9	80.6	102.4	107.5	106.8	103.6	98.7	91.7	80.6
70°	38.7	42.1	48.3	59.8	80.5	88.2	90.4	87.6	83.3	75.8	67.7
72.5°	32.0	34.6	37.6	45.9	60.2	70.3	74.1	72.6	69.4	62.2	55.5
75°	26.1	27.8	29.9	33.8	43.2	54.7	59.0	58.6	55.5	49.4	44.0
77.5°	21.1	21.6	23.1	25.6	30.3	40.6	44.0	45.1	42.7	37.6	33.3
80°	15.8	16.5	17.3	18.6	20.9	26.9	31.2	32.9	30.8	27.8	23.5
82.5°	11.1	11.3	12.0	12.8	13.9	16.4	20.9	22.7	20.9	17.7	16.4
85°	7.0	6.8	7.0	7.1	8.3	8.8	11.7	13.0	12.6	10.7	9.2
87.5°	3.2	3.2	3.0	3.2	3.0	3.6	4.1	6.0	4.5	3.9	3.6
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°	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0	500.0
2.5°	494.2	493.6	491.7	489.1	486.9	483.1	483.1	484.0	483.9	484.2	483.9
5°	486.3	483.7	480.8	477.3	473.9	469.0	468.4	468.8	468.6	468.4	467.3
7.5°	476.1	473.1	469.6	465.1	461.3	456.6	455.3	454.9	453.4	452.8	451.3
10°	466.4	462.8	458.1	452.6	447.6	442.1	438.7	436.9	434.4	431.8	429.5
12.5°	455.5	450.8	444.8	438.2	429.7	423.7	418.6	415.4	412.0	407.5	404.3
15°	443.8	434.2	427.1	416.4	406.0	404.0	396.3	386.1	385.4	363.4	355.7
17.5°	428.2	420.3	407.0	393.1	379.0	367.5	367.7	340.2	331.8	331.6	318.1
20°	412.0	401.1	385.7	371.6	356.8	333.1	314.3	305.3	291.6	286.3	278.6
22.5°	393.1	378.8	360.7	341.6	320.9	301.7	283.3	274.6	267.7	261.9	258.7
25°	370.5	356.0	334.4	310.5	287.4	269.6	259.4	255.5	243.6	239.5	235.5
27.5°	347.8	332.0	303.8	280.8	261.9	249.6	239.1	232.5	226.9	216.4	211.7
30°	326.1	300.8	277.5	256.4	242.1	230.6	222.9	209.6	201.7	196.8	194.7
32.5°	302.6	275.6	254.5	236.3	221.6	211.7	200.2	191.2	187.6	181.2	172.0
35°	278.6	254.0	232.0	217.3	204.7	191.2	184.0	175.4	166.4	161.5	160.7
37.5°	255.3	232.0	216.2	200.8	185.5	177.6	167.1	157.9	154.7	150.2	145.3
40°	234.2	214.3	199.6	182.0	172.8	160.5	152.4	147.7	140.0	138.4	136.8
42.5°	216.9	199.8	183.3	167.5	156.8	147.0	139.9	134.4	132.0	127.8	126.5
45°	199.4	183.7	166.7	154.3	142.1	133.8	129.0	124.3	121.4	120.3	118.0
47.5°	183.7	168.2	152.6	137.4	129.1	123.7	118.2	115.8	114.1	111.7	110.3
50°	168.6	151.5	136.8	127.3	118.4	113.5	110.0	107.7	105.1	102.4	98.7
52.5°	153.4	138.7	124.6	114.5	107.9	104.7	101.3	98.9	93.6	88.5	85.3
55°	138.0	122.9	111.5	103.8	99.1	95.7	91.7	84.6	79.7	76.9	75.4
57.5°	124.1	110.5	100.4	94.0	90.6	85.0	78.0	73.5	71.1	69.9	69.2
60°	109.2	97.6	89.1	84.2	79.0	71.4	67.7	65.4	64.7	64.3	63.7
62.5°	96.4	86.1	79.5	74.1	66.5	62.6	60.5	59.4	59.4	58.8	58.5
65°	82.9	74.8	69.2	61.3	57.3	55.6	54.9	54.3	53.8	53.6	52.8
67.5°	71.8	64.7	57.3	53.2	50.8	49.8	49.1	48.9	48.1	47.6	47.0
70°	60.5	53.6	47.6	45.7	44.4	44.0	43.2	42.5	41.9	41.2	40.8
72.5°	49.2	42.7	40.6	39.7	38.3	37.8	36.8	36.3	35.3	35.0	34.6
75°	37.6	35.0	33.8	33.1	32.1	30.8	30.5	29.9	29.5	28.9	28.4
77.5°	29.9	28.4	27.1	26.1	25.4	24.4	23.7	23.5	23.1	22.6	22.4
80°	22.4	21.2	20.7	19.7	18.8	18.2	17.9	17.7	17.1	16.9	16.7
82.5°	15.4	14.5	14.1	13.0	12.6	12.6	12.4	12.0	11.7	11.5	11.3
85°	8.6	8.3	7.7	7.9	7.3	7.3	7.1	7.0	6.8	6.6	6.4
87.5°	3.4	3.2	3.0	2.8	2.8	2.3	2.3	2.3	2.4	2.3	2.1
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°	500.0	500.0	500.0	500.0
2.5°	484.4	484.8	483.5	482.7
5°	467.3	466.7	466.0	465.4
7.5°	449.8	449.3	449.3	447.0
10°	428.6	427.1	426.0	424.1
12.5°	401.5	399.3	398.5	396.3
15°	350.4	345.7	342.5	348.1
17.5°	314.9	302.6	303.6	298.9
20°	278.4	273.5	276.0	268.8
22.5°	254.7	251.7	248.9	247.4
25°	232.7	229.1	224.8	226.3
27.5°	205.1	205.1	202.3	203.4
30°	191.0	189.5	184.8	185.7
32.5°	169.0	167.1	166.5	166.9
35°	158.5	155.5	154.5	153.4
37.5°	143.8	142.7	142.9	142.1
40°	134.0	133.1	132.0	132.3
42.5°	125.6	125.0	123.9	124.1
45°	117.3	116.7	116.2	116.2
47.5°	108.1	107.0	106.0	104.9
50°	96.1	93.8	92.1	91.4
52.5°	83.1	82.0	80.8	80.8
55°	74.8	74.3	73.9	73.7
57.5°	69.0	68.6	68.6	68.0
60°	63.7	63.7	63.5	63.9
62.5°	58.6	58.1	58.3	58.3
65°	52.8	52.6	52.4	52.3
67.5°	46.6	46.4	46.6	46.2
70°	40.4	40.4	40.2	39.9
72.5°	34.0	34.4	34.0	33.8
75°	28.0	27.8	28.0	27.4
77.5°	22.4	21.6	22.0	22.2
80°	16.5	16.5	16.4	16.2
82.5°	11.1	11.3	10.9	10.9
85°	6.4	6.4	6.0	6.4
87.5°	1.9	1.9	1.9	2.3
90°	0.0	0.0	0.0	0.0

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