

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: P243247

Luminaire Tested: **S122RDR-H290D927-X4F0-XX-UDD-A-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243247
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-68)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDR-H290D927-X4F0-XX-UDD-A-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH ASYMMETRIC FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 854.1 lumens
Efficiency: N/A
Efficacy: 76.3 lumens/watt
Spacing Criteria (0/90/45): 0.81 / 1.17 / 0.99
Luminous Opening: Rectangular (W 3.88' x L: 0.15' x H: 0')
CIE Type: Direct

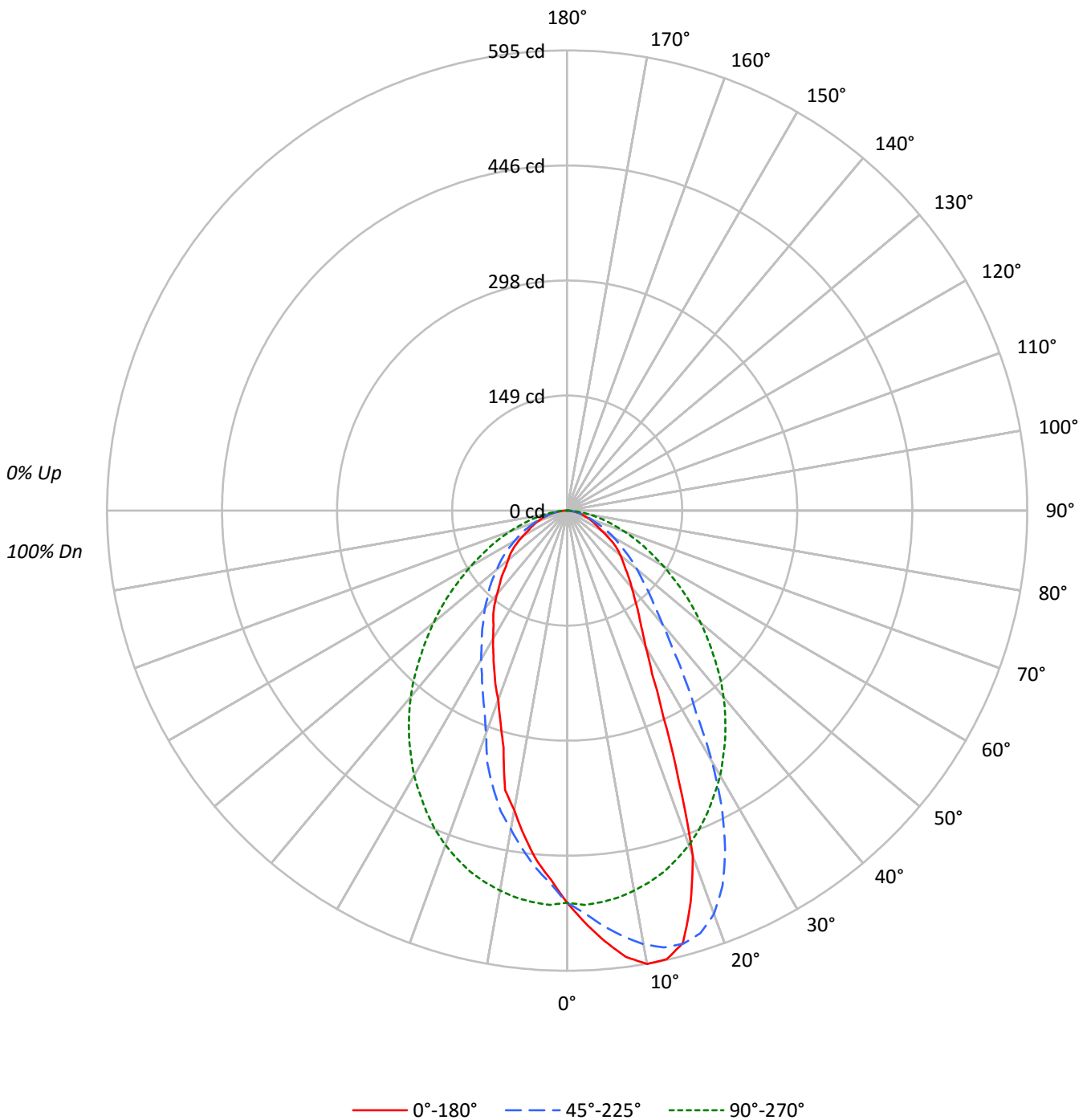
Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	81	86	83	79	84	80	78	76
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66
4	87	77	69	63	85	76	68	63	73	67	62	71	65	61	69	64	60	58
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42
8	66	54	46	41	65	53	46	41	52	45	41	51	45	40	50	44	40	38
9	62	50	43	38	61	50	42	37	48	42	37	47	41	37	46	41	37	35
10	59	47	39	35	58	46	39	35	45	39	34	44	38	34	44	38	34	33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	9653	9653	9653
5°	10685	9717	8675
10°	11514	9651	7607
15°	11412	9538	6253
20°	9626	9328	5276
25°	6189	9039	4697
30°	4471	8705	4210
35°	3725	8287	3872
40°	3232	7825	3503
45°	2885	7241	3208
50°	2664	6667	2948
55°	2391	6090	2809
60°	1909	5482	2526
65°	1749	4926	2330
70°	1609	4350	2217
75°	1465	3805	2097
80°	1272	3170	1963
85°	1005	2535	1814



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.0	5.6
10°-20°	131.2	15.4
20°-30°	165.4	19.4
30°-40°	158.8	18.6
40°-50°	136.8	16.0
50°-60°	104.6	12.2
60°-70°	66.6	7.8
70°-80°	33.7	3.9
80°-90°	8.9	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°	344.7	40.4
0°-40°	503.5	59.0
0°-60°	744.9	87.2
0°-90°	854.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	854.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	507	507	507	507	507	
5°	559	539	508	464	454	54
15°	579	580	484	370	317	157
25°	294	483	430	258	224	141
35°	160	265	356	192	166	101
45°	107	149	269	142	119	83
55°	72	90	183	99	85	63
65°	39	50	109	61	52	39
75°	20	23	52	31	28	21
85°	5	6	12	9	8	5
90°	0	0	0	0	0	



TEST NUMBER: P243247

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8
2.5°	533.6	534.3	534.6	533.8	532.0	532.1	530.5	527.6	524.2	521.0	522.8
5°	558.8	559.6	559.5	558.0	556.2	554.5	551.7	547.7	543.6	539.3	538.4
7.5°	582.0	583.9	583.4	580.5	579.2	576.9	572.1	567.6	561.3	555.2	552.7
10°	595.3	596.8	596.0	595.3	593.8	591.5	587.2	582.9	575.9	569.4	565.8
12.5°	594.3	595.6	596.3	597.0	596.5	595.6	593.8	590.2	584.5	578.6	573.9
15°	578.7	576.6	575.1	579.2	580.7	586.3	587.7	588.2	584.4	579.9	578.7
17.5°	531.3	532.0	543.4	541.6	544.1	557.8	563.3	570.8	573.9	572.9	574.9
20°	474.9	467.1	472.8	481.0	488.8	508.9	522.2	533.9	547.5	555.2	562.5
22.5°	376.7	376.9	390.5	404.1	421.7	443.4	463.6	486.2	510.4	525.2	542.2
25°	294.5	302.5	308.4	314.4	339.9	360.8	394.5	421.9	455.2	483.2	511.9
27.5°	238.1	246.4	247.4	260.8	275.9	292.8	314.9	358.0	392.2	433.3	468.8
30°	203.3	205.0	208.4	211.9	223.0	238.8	262.5	289.5	327.5	374.4	422.0
32.5°	178.1	177.8	181.2	186.7	192.9	203.5	216.9	239.3	273.6	310.9	366.5
35°	160.2	159.7	162.2	164.2	167.8	176.4	188.5	203.3	228.0	265.1	308.3
37.5°	143.3	144.3	145.8	147.9	152.7	158.2	166.3	178.6	198.2	222.7	264.0
40°	130.0	131.2	132.8	134.3	138.0	142.4	147.9	157.7	170.8	192.2	223.9
42.5°	118.1	118.6	119.9	122.0	124.7	128.7	134.0	141.4	152.4	167.3	195.0
45°	107.1	107.1	108.6	110.6	112.3	116.1	120.2	127.4	135.8	148.6	168.3
47.5°	97.8	98.0	98.8	99.2	101.0	104.5	108.9	114.6	121.5	131.3	149.7
50°	89.9	90.5	90.9	91.4	92.0	93.9	97.0	101.3	108.9	117.6	129.8
52.5°	81.6	82.4	83.1	84.1	85.1	85.2	87.6	90.4	95.7	104.6	114.6
55°	72.0	72.6	74.0	74.8	76.1	77.3	79.1	81.1	84.6	90.5	100.8
57.5°	61.0	61.2	62.5	63.3	66.0	68.7	70.3	72.5	75.0	79.1	86.9
60°	50.1	50.6	50.7	51.4	53.7	56.5	59.9	63.2	65.8	69.5	75.0
62.5°	44.1	44.3	44.8	45.4	45.6	46.9	47.9	51.9	56.5	60.2	63.8
65°	38.8	39.0	39.0	39.5	40.1	40.8	41.3	42.8	44.8	49.9	54.4
67.5°	33.8	33.7	34.0	34.5	34.7	35.2	36.0	36.8	38.1	39.6	44.3
70°	28.9	28.9	28.7	29.2	29.7	29.8	30.3	31.2	32.0	33.3	34.8
72.5°	23.9	24.2	24.2	24.5	24.7	25.4	25.7	26.0	27.2	27.9	29.0
75°	19.9	19.7	20.2	20.1	20.4	20.6	21.1	21.6	21.9	22.6	23.5
77.5°	15.9	15.6	15.9	15.8	16.1	16.4	16.4	16.9	17.2	17.9	18.4
80°	11.6	11.6	11.8	12.1	12.1	12.3	12.6	12.4	13.1	13.3	13.8
82.5°	8.0	8.1	8.1	8.3	8.3	8.3	8.6	8.6	8.8	9.1	9.3
85°	4.6	4.5	4.6	4.6	4.6	4.8	5.0	4.8	5.1	5.5	5.5
87.5°	1.3	1.3	1.5	1.7	1.7	1.8	1.8	1.8	2.0	2.0	2.2
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°	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8
2.5°	522.8	522.0	519.9	517.9	514.2	511.2	510.2	510.4	505.9	501.3	500.0
5°	537.3	534.3	530.0	525.5	520.0	514.5	511.1	508.2	501.3	494.3	490.3
7.5°	549.2	544.4	538.1	531.0	523.8	515.7	510.1	504.8	495.1	485.7	480.6
10°	560.1	553.3	544.7	535.4	526.0	515.4	507.2	499.0	486.9	476.2	467.5
12.5°	570.6	559.8	551.0	537.6	527.1	512.7	501.6	492.0	477.7	464.5	454.7
15°	571.6	564.0	552.2	538.3	522.3	508.9	495.0	483.7	467.5	452.7	435.9
17.5°	571.4	565.5	553.2	538.9	519.9	502.3	487.2	472.4	453.9	436.6	422.2
20°	565.5	561.3	550.7	533.8	514.5	494.3	477.6	460.2	438.4	420.7	404.9
22.5°	551.4	552.4	544.1	529.0	508.2	485.7	466.3	446.2	424.0	403.6	383.7
25°	527.5	538.1	535.6	521.5	499.5	474.7	452.7	430.1	406.3	384.5	366.1
27.5°	497.8	517.7	522.0	511.1	490.0	462.3	437.3	412.7	388.4	365.0	346.1
30°	462.6	492.3	503.3	497.3	477.9	448.9	419.9	395.8	369.1	344.2	324.3
32.5°	418.4	460.0	479.2	481.0	465.1	434.0	401.8	375.9	348.6	325.0	303.6
35°	369.0	420.0	451.4	459.8	448.4	417.5	383.7	356.4	327.2	303.5	281.9
37.5°	319.2	379.2	420.4	436.8	429.1	399.3	363.5	335.8	306.9	282.7	262.5
40°	273.4	330.5	383.9	409.6	407.3	379.6	343.4	314.7	285.4	263.0	240.8
42.5°	232.5	287.5	346.2	380.7	382.6	358.3	321.4	292.5	264.3	242.1	218.9
45°	200.1	248.6	306.8	347.9	355.9	336.0	298.5	268.8	243.1	222.2	199.0
47.5°	174.3	211.9	266.0	314.2	328.3	310.9	275.1	246.9	222.7	204.8	182.9
50°	151.9	187.2	233.1	277.8	298.5	285.4	251.9	225.0	203.1	185.9	166.7
52.5°	132.0	159.4	199.2	241.9	269.8	257.9	229.3	204.6	184.1	168.0	151.9
55°	115.6	138.5	173.6	211.8	237.5	230.8	205.5	183.4	165.3	150.1	137.0
57.5°	98.7	117.9	146.3	180.2	205.5	204.5	183.6	162.3	148.1	133.7	124.2
60°	83.9	99.5	122.5	151.4	176.8	176.9	160.7	143.9	131.7	119.2	110.3
62.5°	70.8	83.2	103.3	126.5	146.8	151.9	139.8	125.2	115.2	105.6	98.0
65°	59.5	68.8	83.9	105.0	120.9	127.8	119.9	109.3	101.0	92.4	85.6
67.5°	49.1	55.9	67.0	83.6	99.5	104.6	101.3	93.2	87.2	80.1	75.0
70°	38.6	44.4	52.2	64.7	77.8	84.9	83.9	78.1	73.1	68.0	63.2
72.5°	30.7	34.0	40.0	48.9	59.4	67.3	67.7	64.7	60.5	56.2	53.1
75°	24.7	26.2	29.0	36.0	44.3	50.9	53.2	51.7	48.4	45.8	43.6
77.5°	19.1	20.4	22.2	25.5	32.0	37.1	40.0	40.1	38.1	35.8	34.2
80°	14.3	14.8	16.1	17.7	21.1	25.5	28.9	28.9	27.7	26.5	25.5
82.5°	9.8	10.3	10.9	11.8	13.4	16.1	19.1	19.6	18.9	18.6	17.2
85°	5.5	6.0	6.3	6.8	7.5	8.8	10.9	11.6	11.8	10.8	10.1
87.5°	2.2	2.2	2.3	2.5	2.7	3.2	4.0	5.0	5.0	4.5	4.3
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°	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8	506.8
2.5°	498.3	496.0	493.0	490.3	486.7	483.0	482.4	483.7	484.0	482.4	482.9
5°	486.5	482.2	478.6	472.6	468.8	463.8	460.5	460.5	460.5	458.0	455.7
7.5°	474.3	468.4	461.5	455.8	448.1	441.6	438.4	436.9	434.0	431.5	428.7
10°	460.0	451.9	443.2	434.5	427.7	418.7	413.4	410.1	404.9	402.8	398.6
12.5°	443.2	435.1	424.7	410.4	408.4	397.5	390.0	383.9	377.6	372.4	370.6
15°	429.8	415.7	401.8	391.7	376.9	370.4	359.5	358.5	353.4	338.3	326.5
17.5°	408.1	395.5	380.1	368.8	357.0	342.6	331.0	319.5	308.6	298.0	297.7
20°	388.9	374.1	359.5	347.2	326.7	306.1	299.0	288.5	282.1	273.6	271.1
22.5°	367.8	352.4	334.1	316.2	292.2	279.2	271.5	263.2	256.7	252.9	249.1
25°	346.6	331.1	306.9	284.9	268.5	258.4	251.7	242.8	238.1	234.8	229.8
27.5°	325.8	306.3	280.7	263.2	249.9	238.5	232.5	225.2	220.0	215.7	212.6
30°	305.3	278.4	256.7	243.1	229.5	222.4	214.6	209.1	205.3	201.3	196.2
32.5°	282.7	254.5	240.4	223.7	215.7	205.5	199.8	194.2	189.2	186.4	184.6
35°	256.5	233.8	221.2	208.9	198.8	192.0	184.1	180.6	177.9	172.5	170.1
37.5°	234.3	217.9	204.6	193.7	184.4	177.1	173.4	167.5	163.7	161.8	159.4
40°	215.9	201.3	189.9	178.8	171.0	165.7	159.2	156.0	151.1	149.2	147.3
42.5°	200.0	186.5	174.6	166.2	159.4	152.1	148.7	143.4	141.3	136.8	135.1
45°	183.9	172.0	161.5	153.2	146.8	142.3	136.3	133.0	129.2	126.9	122.4
47.5°	167.8	157.2	148.6	141.6	136.0	130.5	125.5	122.7	117.9	115.4	113.1
50°	155.4	145.1	137.0	130.0	124.2	118.7	115.6	110.9	106.6	103.8	103.0
52.5°	140.6	131.7	124.2	118.9	113.1	109.1	104.8	99.7	97.5	94.7	94.0
55°	127.5	120.2	113.9	108.3	103.3	98.8	93.9	90.2	88.5	87.2	86.2
57.5°	115.2	108.3	102.5	97.3	93.0	88.4	84.2	82.1	80.6	79.1	78.1
60°	103.1	96.8	91.5	87.2	82.7	78.3	75.3	73.5	72.3	70.1	69.5
62.5°	92.4	86.6	81.1	77.1	73.0	69.5	67.0	64.5	62.7	61.0	57.5
65°	80.6	75.4	71.3	67.3	63.3	60.7	57.9	55.1	52.7	52.7	52.7
67.5°	70.1	65.7	61.4	57.9	54.4	51.2	48.4	48.3	47.4	47.1	46.6
70°	59.5	56.4	52.4	48.6	45.1	43.6	43.1	42.3	41.3	41.1	40.5
72.5°	49.9	46.3	42.6	39.3	38.6	38.0	37.0	36.1	35.5	35.0	34.7
75°	40.8	37.1	34.2	33.3	32.5	31.3	30.5	29.8	29.5	29.5	29.4
77.5°	31.2	29.0	27.7	26.4	25.7	25.0	24.5	24.2	23.7	23.9	23.5
80°	22.9	22.2	21.1	20.2	19.9	19.2	18.9	18.7	18.4	18.4	18.2
82.5°	16.4	15.3	14.8	14.3	13.9	13.6	13.8	13.6	13.4	13.3	13.4
85°	9.5	9.3	9.0	9.0	9.0	8.8	8.8	8.8	8.6	8.5	8.5
87.5°	4.1	4.3	4.3	4.0	4.5	4.5	4.3	4.3	4.1	4.5	4.1
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°	506.8	506.8	506.8	506.8
2.5°	480.7	480.6	479.6	477.9
5°	454.7	454.0	452.4	453.7
7.5°	426.8	425.0	423.3	424.2
10°	397.0	396.3	395.3	393.3
12.5°	364.0	366.6	363.8	370.1
15°	315.1	326.8	312.1	317.1
17.5°	290.7	290.9	288.9	286.5
20°	267.8	262.0	264.2	260.3
22.5°	245.7	244.4	243.8	242.4
25°	226.0	223.5	222.7	223.5
27.5°	211.4	210.3	207.1	206.6
30°	193.2	192.7	191.7	191.4
32.5°	181.7	179.6	179.1	177.1
35°	169.0	167.8	167.0	166.5
37.5°	156.2	155.5	154.0	154.9
40°	145.8	142.4	141.1	140.9
42.5°	134.3	132.5	129.8	129.0
45°	121.1	120.2	119.4	119.1
47.5°	109.4	108.9	108.0	107.5
50°	101.2	99.8	99.7	99.5
52.5°	93.2	92.7	92.2	92.9
55°	85.7	85.1	84.6	84.6
57.5°	77.6	76.4	75.4	75.6
60°	68.2	67.5	66.7	66.3
62.5°	57.2	57.2	57.0	57.0
65°	52.1	51.7	51.6	51.7
67.5°	46.4	46.1	45.6	45.8
70°	40.0	39.8	40.0	39.8
72.5°	34.2	34.0	34.2	34.5
75°	28.9	28.7	28.5	28.5
77.5°	23.4	23.2	22.9	23.2
80°	18.2	18.1	17.9	17.9
82.5°	12.9	13.1	12.9	12.9
85°	8.5	8.6	8.5	8.3
87.5°	4.3	4.5	4.1	4.0
90°	0.0	0.0	0.0	0.0

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