

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: P332275-930

Luminaire Tested: **S123RDIP-S560D365U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332275-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D365U930-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2811.5 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

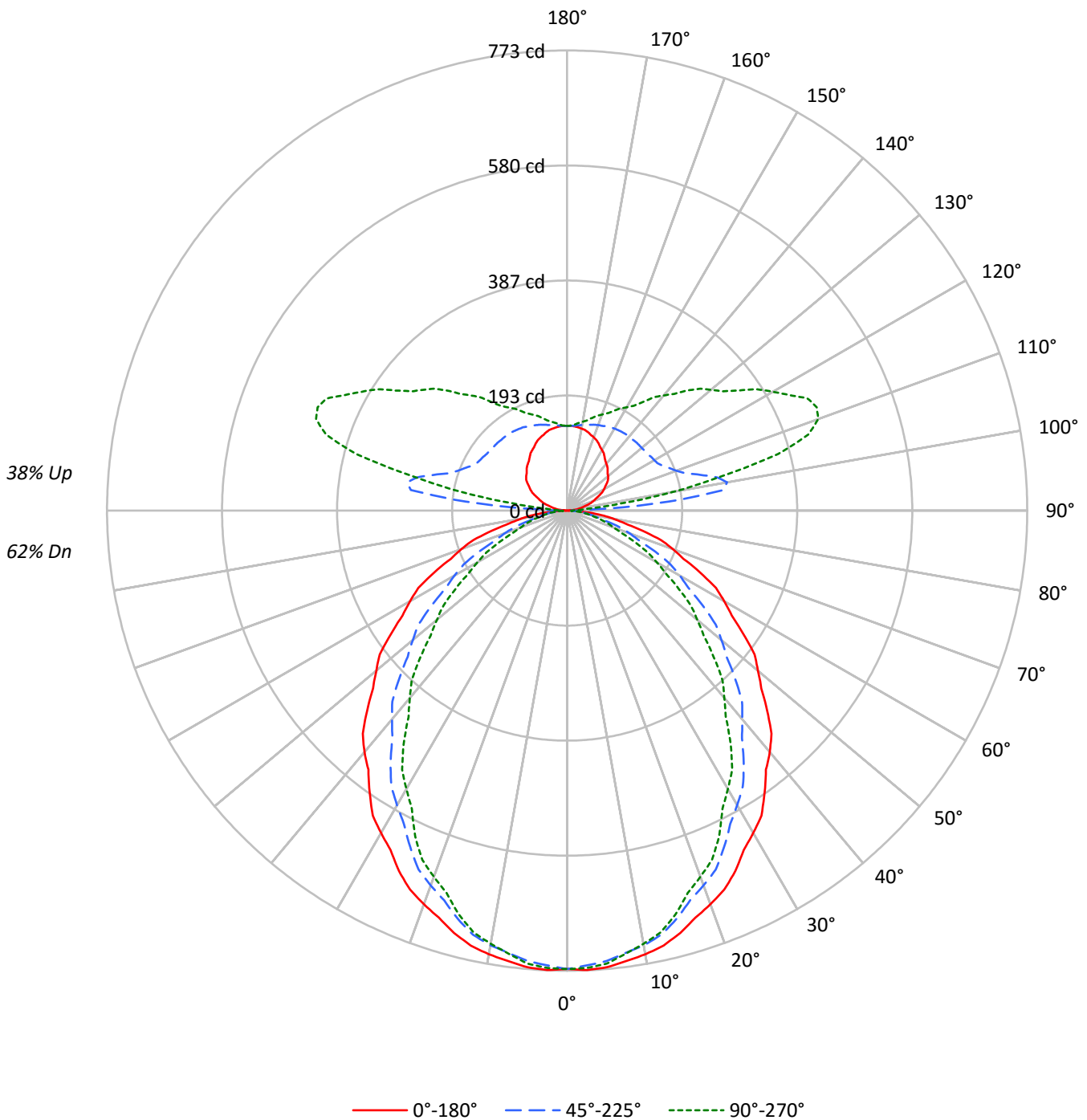
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	101	97	93	89	94	91	87	84	80	77	75	69	68	66	60	59	57	53
2	92	85	79	74	86	80	74	70	70	66	63	61	58	56	53	51	49	45
3	84	75	68	62	79	71	64	59	62	57	53	55	51	48	48	45	42	39
4	77	67	59	53	72	63	56	50	56	50	46	49	45	41	43	39	37	33
5	71	60	51	46	67	56	49	44	50	44	40	44	39	36	39	35	32	29
6	66	54	46	40	61	51	43	38	45	39	35	40	35	32	35	31	29	26
7	61	49	41	35	57	46	39	34	41	35	31	37	32	28	32	28	25	23
8	57	44	37	31	53	42	35	30	38	32	28	34	29	25	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	26	23	27	24	21	19
10	49	37	30	25	46	36	29	24	32	26	23	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8289	8289	8289
5°	8321	8206	8253
10°	8273	8103	8075
15°	8184	7913	7830
20°	8062	7676	7497
25°	7936	7410	7172
30°	7771	7102	6714
35°	7599	6795	6294
40°	7442	6433	5774
45°	7234	6075	5305
50°	7006	5668	4779
55°	6775	5204	4290
60°	6562	4706	3750
65°	6283	4167	3212
70°	5936	3500	2593
75°	5427	2753	2441
80°	4841	2442	2244
85°	4088	2149	2001



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.3	2.6
10°-20°	201.2	7.2
20°-30°	289.7	10.3
30°-40°	326.3	11.6
40°-50°	312.2	11.1
50°-60°	255.7	9.1
60°-70°	172.5	6.1
70°-80°	86.8	3.1
80°-90°	24.1	0.9
90°-100°	79.2	2.8
100°-110°	224.3	8.0
110°-120°	220.6	7.8
120°-130°	176.0	6.3
130°-140°	138.8	4.9
140°-150°	103.6	3.7
150°-160°	72.2	2.6
160°-170°	42.4	1.5
170°-180°	13.8	0.5
0°-30°	563.2	20.0
0°-40°	889.5	31.6
0°-60°	1457.4	51.8
0°-90°	1740.7	61.9
90°-120°	524.1	18.6
90°-150°	942.4	33.5
90°-180°	1071.0	38.1
0°-180°	2811.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	770	770	770	770	770	
5°	770	767	760	765	764	73
15°	734	727	710	707	703	207
25°	668	652	624	611	604	307
35°	578	555	517	491	479	362
45°	475	446	399	365	348	367
55°	361	329	277	242	229	324
65°	247	212	164	134	126	244
75°	130	100	66	60	59	139
85°	33	20	17	16	16	37
90°	1	4	7	8	8	2
95°	10	32	171	50	33	11
105°	33	49	232	405	366	36
115°	59	74	177	388	446	58
125°	82	97	165	300	352	73
135°	96	115	163	247	285	74
145°	110	126	161	202	223	69
155°	125	135	156	177	185	57
165°	136	140	149	158	161	38
175°	142	142	143	145	145	13
180°	142	142	142	142	142	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	772.6	772.1	771.7	771.2	770.8	769.9	768.6	767.2	765.9	764.6	765.8
5°	770.1	769.4	768.7	768.0	767.3	766.1	764.4	762.8	761.1	759.5	760.7
7.5°	763.0	762.2	761.4	760.7	759.9	758.5	756.4	754.2	752.0	749.8	750.5
10°	756.9	755.9	755.0	754.0	753.1	751.3	748.9	746.3	743.8	741.4	741.4
12.5°	748.4	747.4	746.2	745.2	744.1	742.1	739.0	736.0	732.9	729.9	729.8
15°	734.4	733.0	731.4	729.9	728.4	725.6	721.8	717.9	714.0	710.1	709.4
17.5°	716.8	715.1	713.3	711.5	709.7	706.4	701.4	696.5	691.5	686.6	685.2
20°	703.8	701.6	699.4	697.2	695.0	691.2	685.9	680.7	675.4	670.1	668.3
22.5°	689.3	686.8	684.3	681.7	679.1	675.1	669.4	663.8	658.3	652.6	650.4
25°	668.2	664.8	661.3	657.9	654.4	649.5	643.0	636.7	630.3	623.9	621.0
27.5°	642.6	638.8	635.0	631.1	627.3	621.8	614.7	607.6	600.5	593.5	589.4
30°	625.2	621.0	616.9	612.7	608.5	602.5	594.8	587.0	579.2	571.4	566.7
32.5°	607.6	603.0	598.3	593.5	588.8	582.4	574.1	565.9	557.7	549.4	544.3
35°	578.3	573.3	568.3	563.4	558.3	551.5	542.9	534.3	525.7	517.1	511.1
37.5°	548.6	543.1	537.5	531.9	526.4	519.0	509.8	500.7	491.5	482.2	475.5
40°	529.6	523.5	517.4	511.3	505.2	497.2	487.4	477.5	467.7	457.8	450.5
42.5°	508.1	502.0	495.9	489.8	483.7	475.6	465.4	455.2	445.0	434.8	426.9
45°	475.2	469.0	462.8	456.6	450.3	441.8	431.1	420.4	409.8	399.1	391.2
47.5°	442.4	435.5	428.7	421.8	415.0	406.3	395.5	384.8	374.1	363.5	354.9
50°	418.4	411.9	405.4	398.8	392.3	383.4	372.2	361.0	349.8	338.5	329.9
52.5°	397.0	389.9	382.8	375.7	368.7	359.5	348.4	337.3	326.1	315.0	306.1
55°	361.0	354.2	347.4	340.6	333.8	324.5	312.7	300.9	289.1	277.3	269.2
57.5°	327.8	320.3	312.9	305.5	298.1	288.5	276.6	264.8	252.9	241.1	233.5
60°	304.8	297.2	289.5	281.8	274.3	264.6	253.2	241.7	230.1	218.6	211.1
62.5°	281.8	274.2	266.5	258.9	251.3	241.7	230.2	218.7	207.1	195.6	188.6
65°	246.7	239.0	231.5	223.8	216.1	206.9	196.1	185.3	174.5	163.6	156.9
67.5°	211.6	203.9	196.2	188.4	180.8	171.7	161.3	150.9	140.6	130.1	125.1
70°	188.6	181.1	173.7	166.2	158.7	150.0	140.3	130.6	120.9	111.2	106.3
72.5°	165.6	158.2	150.8	143.5	136.1	128.0	119.2	110.3	101.5	92.7	88.7
75°	130.5	123.8	117.2	110.6	103.9	96.7	89.1	81.4	73.9	66.2	64.8
77.5°	98.6	92.5	86.5	80.5	74.4	69.0	64.1	59.2	54.2	49.3	48.6
80°	78.1	72.4	66.7	61.0	55.3	51.0	48.1	45.2	42.2	39.4	38.9
82.5°	58.6	53.6	48.8	43.9	38.9	35.8	34.4	33.1	31.7	30.3	29.9
85°	33.1	30.1	27.0	24.0	20.9	19.2	18.8	18.3	17.9	17.4	17.2
87.5°	12.1	11.0	9.9	8.8	7.7	7.3	7.4	7.6	7.7	7.9	7.7
90°	0.6	1.1	1.7	2.6	3.2	3.8	4.6	5.5	6.4	7.2	6.9
92.5°	3.6	5.3	7.7	9.9	12.4	16.6	24.2	36.6	48.8	44.3	33.4
95°	9.8	10.7	13.9	18.8	26.3	37.4	62.0	104.8	152.1	170.9	138.6
97.5°	16.7	17.0	19.5	23.7	31.1	43.3	66.7	115.0	193.9	264.8	283.2
100°	21.4	21.6	23.6	27.6	34.6	45.8	66.0	108.6	184.4	272.9	329.6
102.5°	26.2	26.7	28.5	32.3	38.5	48.8	66.9	103.1	170.6	257.9	331.9
105°	33.4	34.3	36.0	39.5	44.9	53.9	69.5	99.1	153.6	231.6	314.3
107.5°	41.2	42.0	43.7	47.0	52.2	60.5	74.2	98.8	142.8	208.5	283.6
110°	46.6	47.5	49.0	52.2	57.1	65.1	78.1	100.0	138.6	195.3	264.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	51.8	52.6	54.1	57.2	62.1	70.0	82.0	102.3	136.2	186.5	247.4
115°	59.0	60.3	62.0	64.8	69.7	77.5	88.5	106.0	135.4	177.2	227.1
117.5°	66.4	67.7	69.1	71.8	77.3	84.5	95.3	111.0	135.9	171.6	214.7
120°	71.4	72.3	73.8	76.6	82.1	89.3	99.7	114.6	136.9	169.1	208.3
122.5°	75.8	76.7	78.1	81.3	86.5	94.2	104.3	118.1	138.4	167.5	203.0
125°	82.1	82.7	84.4	87.6	93.0	100.9	111.0	123.6	140.9	165.3	196.2
127.5°	86.9	87.7	89.9	93.1	99.1	107.0	116.7	128.1	143.7	164.4	190.2
130°	89.9	90.7	93.4	96.8	102.9	110.6	120.2	131.1	145.5	163.6	186.9
132.5°	92.2	93.3	96.1	100.3	106.3	113.9	123.1	133.9	146.9	163.4	184.0
135°	96.2	97.3	100.5	104.8	111.0	118.7	127.6	137.5	149.0	163.1	180.1
137.5°	100.0	101.3	104.4	108.9	115.0	122.1	130.8	140.1	150.3	162.4	176.7
140°	102.6	104.0	106.9	111.5	117.2	124.5	132.8	141.5	151.2	162.2	174.6
142.5°	105.3	106.6	109.7	113.8	119.6	126.3	134.4	142.8	152.0	161.8	172.8
145°	109.7	110.6	113.2	117.6	122.5	129.1	136.6	144.3	152.4	161.0	170.2
147.5°	114.3	114.8	117.3	121.1	125.8	131.4	138.3	145.3	152.4	160.0	167.9
150°	117.2	117.6	119.8	123.6	127.6	132.8	139.4	145.5	152.4	159.1	166.2
152.5°	120.3	120.3	122.6	125.9	129.5	134.4	140.1	145.9	151.7	157.9	164.4
155°	124.7	124.7	126.5	129.4	132.6	136.6	141.5	146.1	151.0	155.9	161.6
157.5°	128.3	128.6	130.0	132.5	135.2	138.3	142.2	146.3	150.0	154.1	158.5
160°	131.1	131.1	132.2	134.5	136.6	139.4	142.9	146.3	149.5	152.7	156.5
162.5°	133.1	133.1	134.1	135.9	137.7	140.1	143.2	146.1	148.6	151.3	154.3
165°	136.2	136.0	136.6	138.0	139.2	141.2	143.5	145.5	147.2	149.3	151.6
167.5°	138.6	138.3	138.6	139.7	140.5	141.8	143.4	145.0	145.9	147.2	148.9
170°	140.0	139.4	139.7	140.6	141.2	141.8	143.2	144.3	145.0	145.8	147.2
172.5°	141.0	140.6	140.6	141.3	141.6	141.9	143.2	144.1	144.2	144.6	145.6
175°	142.0	141.8	141.5	142.0	142.0	142.4	142.9	143.5	143.2	143.2	143.7
177.5°	142.6	142.4	142.1	142.4	142.4	142.4	142.6	143.0	142.6	142.4	142.6
180°	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	770.1	770.1	770.1	770.1	770.1	770.1	770.1	770.1
2.5°	767.0	768.3	769.5	770.0	769.7	769.5	769.3	769.1
5°	761.9	763.2	764.4	764.9	764.7	764.3	764.1	763.8
7.5°	751.2	751.9	752.6	752.7	752.2	751.8	751.3	750.8
10°	741.6	741.8	741.8	741.6	740.9	740.2	739.6	738.8
12.5°	729.7	729.6	729.5	729.0	728.2	727.4	726.7	725.9
15°	708.7	708.0	707.4	706.5	705.5	704.6	703.6	702.6
17.5°	683.7	682.2	680.7	679.3	677.8	676.4	674.9	673.5
20°	666.5	664.7	662.9	661.2	659.5	657.9	656.2	654.5
22.5°	648.2	645.9	643.7	641.7	640.2	638.6	637.1	635.5
25°	618.1	615.1	612.3	610.0	608.5	607.0	605.4	603.9
27.5°	585.3	581.3	577.2	574.1	571.7	569.4	567.0	564.7
30°	562.0	557.3	552.6	549.1	546.9	544.7	542.4	540.2
32.5°	539.2	533.9	528.8	525.1	522.8	520.4	518.0	515.8
35°	505.2	499.2	493.3	489.0	486.5	484.0	481.5	479.0
37.5°	468.7	461.9	455.2	450.3	447.2	444.1	441.0	437.9
40°	443.4	436.1	428.9	423.7	420.5	417.4	414.2	410.9
42.5°	419.1	411.2	403.2	397.9	395.0	392.2	389.3	386.5
45°	383.3	375.4	367.5	361.8	358.5	355.1	351.8	348.5
47.5°	346.3	337.7	329.1	323.3	320.3	317.3	314.4	311.4
50°	321.3	312.7	304.1	298.2	295.0	291.8	288.6	285.4
52.5°	297.2	288.2	279.2	273.4	270.5	267.7	264.8	262.0
55°	261.2	253.2	245.1	239.7	236.9	234.2	231.4	228.6
57.5°	225.8	218.3	210.7	205.7	203.3	201.0	198.6	196.2
60°	203.6	196.1	188.6	183.7	181.3	179.0	176.6	174.2
62.5°	181.5	174.5	167.4	162.7	160.2	157.7	155.2	152.8
65°	150.0	143.2	136.4	132.2	130.8	129.2	127.7	126.1
67.5°	120.0	114.9	109.8	106.5	104.8	103.2	101.6	100.0
70°	101.4	96.6	91.7	88.5	87.0	85.5	84.0	82.4
72.5°	84.7	80.8	76.8	74.5	73.9	73.2	72.6	71.9
75°	63.4	62.0	60.7	59.8	59.5	59.3	58.9	58.7
77.5°	47.9	47.1	46.3	45.8	45.6	45.2	45.0	44.7
80°	38.5	38.1	37.7	37.3	37.1	36.8	36.5	36.2
82.5°	29.5	29.1	28.7	28.5	28.4	28.4	28.3	28.2
85°	17.0	16.6	16.4	16.2	16.2	16.2	16.2	16.2
87.5°	7.7	7.7	7.6	7.6	7.4	7.4	7.3	7.2
90°	7.2	7.5	7.7	8.3	8.1	8.3	8.6	8.3
92.5°	24.3	19.2	17.0	15.5	15.0	14.1	14.4	13.9
95°	103.7	70.3	55.0	44.7	39.2	36.6	34.6	33.4
97.5°	258.5	207.1	169.9	135.5	114.2	101.3	93.4	91.0
100°	339.7	316.3	282.7	241.7	212.6	191.6	180.3	180.7
102.5°	366.6	365.9	346.3	320.3	297.7	281.0	271.7	265.0
105°	374.5	403.3	408.8	401.4	388.1	377.2	367.9	366.5
107.5°	351.8	398.6	423.9	434.1	434.4	430.6	427.5	424.9
110°	330.2	383.2	419.5	439.7	447.8	450.0	449.5	448.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	308.8	362.9	403.6	429.5	444.3	451.4	453.6	453.7
115°	280.3	330.4	372.8	404.2	425.8	438.5	444.3	445.7
117.5°	259.8	303.0	341.0	372.9	395.5	410.0	418.2	420.2
120°	248.9	287.8	322.4	351.5	374.2	390.4	397.3	399.0
122.5°	240.4	275.6	307.6	334.7	354.9	369.4	377.0	379.2
125°	229.0	260.5	288.1	311.2	329.6	342.3	349.5	351.5
127.5°	219.2	247.1	272.1	293.1	309.5	320.3	326.9	328.6
130°	212.9	238.9	262.2	281.8	297.0	307.4	313.5	315.8
132.5°	207.2	231.0	252.7	271.4	285.8	296.1	301.5	303.1
135°	199.3	219.8	238.6	254.9	269.1	277.8	282.9	284.9
137.5°	192.2	209.0	225.2	239.5	251.3	260.1	264.4	265.8
140°	188.2	202.8	216.6	229.0	240.0	248.1	252.7	252.4
142.5°	184.3	196.8	208.8	219.6	228.9	236.1	240.2	239.9
145°	179.5	189.0	198.2	206.6	213.8	219.8	222.2	222.7
147.5°	175.6	183.2	190.6	196.6	202.0	206.1	208.3	208.6
150°	172.8	179.5	185.6	191.0	195.3	198.5	200.2	200.2
152.5°	170.3	176.0	181.4	186.0	189.3	192.2	193.3	193.3
155°	166.6	171.1	175.5	178.9	181.5	183.8	184.4	184.7
157.5°	162.5	166.3	169.7	172.4	174.6	176.3	176.8	176.8
160°	160.2	163.4	166.2	168.3	170.2	172.0	172.0	171.7
162.5°	157.4	160.1	162.8	164.6	165.9	167.4	167.4	167.1
165°	153.8	155.6	157.6	159.1	160.2	161.3	161.0	161.0
167.5°	150.7	152.1	153.2	154.3	154.7	155.6	155.3	155.3
170°	148.6	149.5	150.7	151.2	151.6	152.1	151.8	151.8
172.5°	146.8	147.5	148.4	148.7	148.8	149.4	148.9	148.6
175°	144.3	144.6	145.2	145.2	145.2	145.5	145.2	145.0
177.5°	142.8	143.0	143.2	143.2	143.0	143.2	142.8	142.8
180°	142.4	142.4	142.4	142.4	142.4	142.4	142.4	142.4

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