

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: P332281-930

Luminaire Tested: **S123RDIP-S560D585U930-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332281-930
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-S560D585U930-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3469.7 lumens
Efficiency: N/A
Efficacy: 105.8 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: General Diffuse

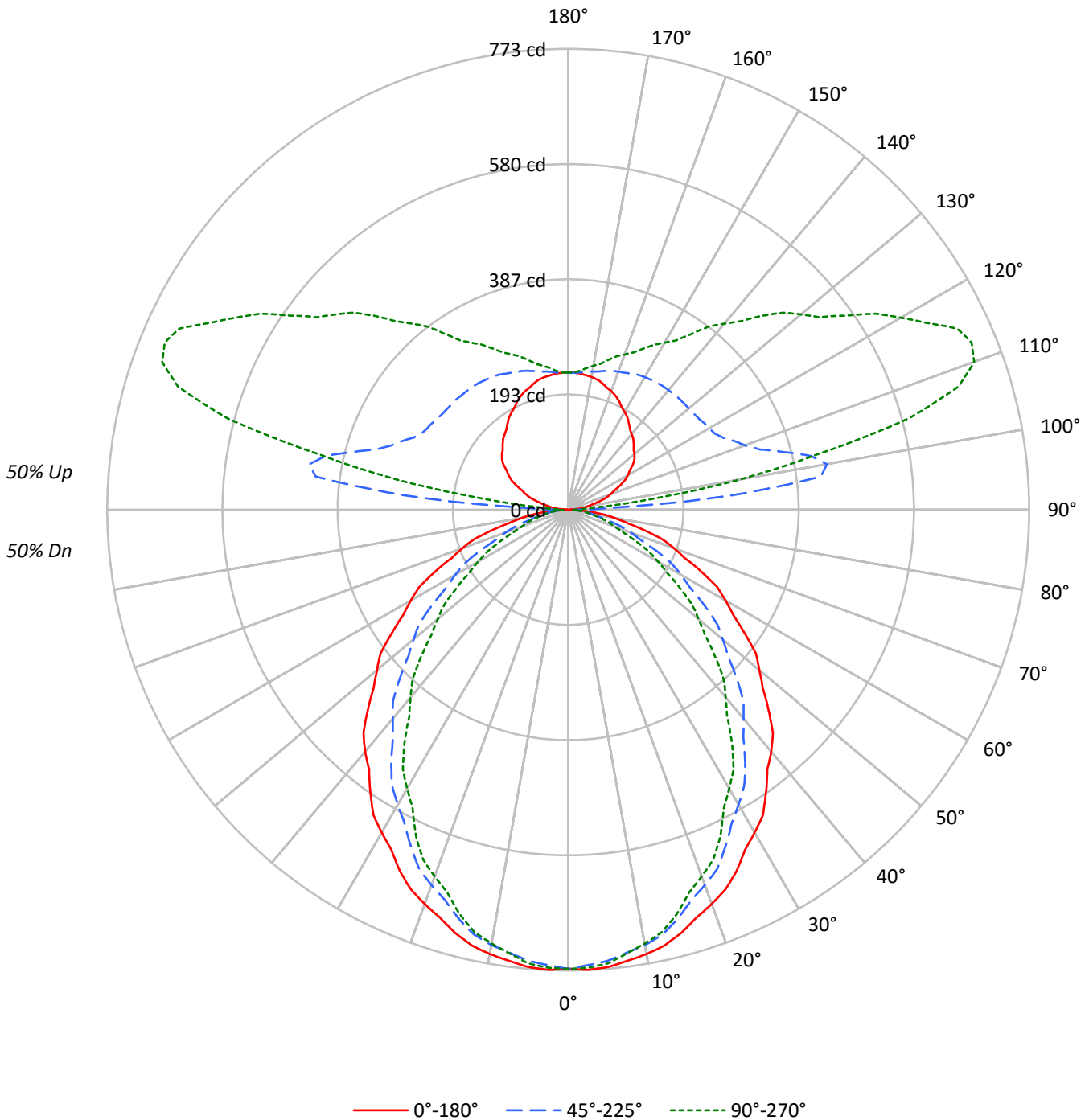
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	98	94	90	87	90	87	84	81	74	71	69	61	60	58	50	49	48	43
2	90	82	76	71	83	76	71	67	65	61	58	54	52	49	45	43	41	36
3	82	73	66	60	75	67	61	56	58	53	49	48	45	42	40	37	35	31
4	75	65	57	51	69	60	53	48	51	46	42	43	39	36	36	33	31	27
5	69	58	50	44	64	54	47	41	46	41	36	39	35	32	32	29	27	24
6	64	52	44	38	59	48	41	36	42	36	32	35	31	28	29	26	24	21
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	27	24	21	19
8	55	43	35	30	51	40	33	28	34	29	25	30	25	22	25	22	19	17
9	51	39	32	27	47	36	30	25	32	26	23	27	23	20	23	20	17	15
10	48	36	29	24	44	34	27	23	29	24	20	25	21	18	21	18	16	14

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	2.1
10°-20°	201.2	5.8
20°-30°	289.7	8.3
30°-40°	326.3	9.4
40°-50°	312.2	9.0
50°-60°	255.7	7.4
60°-70°	172.5	5.0
70°-80°	86.8	2.5
80°-90°	24.7	0.7
90°-100°	127.8	3.7
100°-110°	362.0	10.4
110°-120°	356.1	10.3
120°-130°	284.0	8.2
130°-140°	224.0	6.5
140°-150°	167.1	4.8
150°-160°	116.5	3.4
160°-170°	68.4	2.0
170°-180°	22.3	0.6
0°-30°	563.2	16.2
0°-40°	889.5	25.6
0°-60°	1457.4	42.0
0°-90°	1741.4	50.2
90°-120°	846.0	24.4
90°-150°	1521.1	43.8
90°-180°	1728.0	49.8
0°-180°	3469.7	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	6	12	13	14	3
95°	16	51	276	80	54	17
105°	54	80	374	654	592	57
115°	95	119	286	627	719	94
125°	133	156	267	484	567	118
135°	155	185	263	398	460	120
145°	177	203	260	327	360	111
155°	201	217	252	286	298	93
165°	220	226	241	256	260	62
175°	229	230	231	234	234	22
180°	230	230	230	230	230	



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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	11.2	10.1	9.1	8.2	7.7	8.0	8.2	8.6	8.8	8.6
90°	0.9	1.9	2.8	4.2	5.1	6.0	7.4	8.8	10.2	11.7	11.2
92.5°	5.8	8.6	12.5	16.1	20.0	26.9	39.1	59.0	78.7	71.5	54.0
95°	15.8	17.2	22.3	30.2	42.3	60.4	100.0	169.3	245.6	275.7	223.6
97.5°	27.0	27.5	31.5	38.3	50.2	69.9	107.6	185.7	312.8	427.4	457.2
100°	34.4	34.9	38.2	44.7	55.8	73.9	106.5	175.3	297.6	440.3	532.0
102.5°	42.2	43.0	46.0	52.1	62.1	78.8	107.9	166.4	275.3	416.2	535.7
105°	54.0	55.4	58.1	63.7	72.6	87.0	112.1	160.0	247.9	373.9	507.4
107.5°	66.4	67.8	70.5	76.0	84.3	97.7	119.7	159.5	230.4	336.5	457.7
110°	75.3	76.7	79.1	84.1	92.0	105.1	126.0	161.3	223.6	315.3	426.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	83.5	85.0	87.2	92.4	100.3	112.9	132.3	165.1	220.0	301.2	399.3
115°	95.3	97.2	100.0	104.6	112.5	125.1	142.8	171.1	218.6	286.0	366.5
117.5°	107.1	109.3	111.6	115.9	124.7	136.3	153.8	179.1	219.4	277.0	346.7
120°	115.4	116.8	119.0	123.7	132.6	144.1	160.9	185.1	220.9	273.0	336.2
122.5°	122.4	123.8	126.1	131.1	139.6	152.0	168.4	190.7	223.5	270.4	327.7
125°	132.6	133.5	136.2	141.4	150.2	162.7	179.0	199.5	227.4	266.9	316.7
127.5°	140.2	141.6	145.1	150.3	160.0	172.6	188.3	206.8	231.9	265.2	307.0
130°	145.1	146.5	150.7	156.2	166.0	178.6	193.9	211.6	234.8	264.2	301.8
132.5°	148.8	150.6	155.2	161.8	171.6	183.8	198.8	216.1	237.1	263.7	296.9
135°	155.3	157.2	162.3	169.3	179.0	191.6	206.0	221.8	240.4	263.2	290.7
137.5°	161.4	163.4	168.4	175.9	185.6	197.1	211.0	226.1	242.6	262.2	285.2
140°	165.6	167.9	172.5	179.9	189.2	200.9	214.3	228.4	244.1	261.8	281.8
142.5°	170.0	171.9	177.0	183.7	193.0	203.9	217.0	230.6	245.2	261.1	278.8
145°	177.2	178.6	182.8	189.7	197.6	208.3	220.5	233.0	246.0	259.9	274.8
147.5°	184.4	185.2	189.4	195.4	203.0	212.1	223.2	234.5	246.0	258.2	270.9
150°	189.2	189.7	193.5	199.5	206.0	214.3	225.1	234.8	246.0	256.7	268.3
152.5°	194.1	194.2	198.0	203.3	209.0	217.0	226.2	235.6	244.9	254.9	265.4
155°	201.4	201.4	204.2	208.8	213.9	220.5	228.4	235.8	243.7	251.6	260.9
157.5°	207.1	207.5	209.7	213.9	218.2	223.2	229.5	236.3	242.1	248.7	255.8
160°	211.6	211.6	213.4	217.2	220.5	225.1	230.6	236.3	241.3	246.5	252.5
162.5°	214.9	214.9	216.5	219.4	222.3	226.2	231.1	235.9	239.9	244.3	249.2
165°	220.0	219.5	220.5	222.7	224.6	227.9	231.5	234.8	237.7	240.9	244.6
167.5°	223.8	223.2	223.6	225.4	226.7	228.8	231.5	234.1	235.4	237.5	240.3
170°	226.0	225.1	225.5	226.9	227.9	228.8	231.1	233.0	233.9	235.3	237.7
172.5°	227.5	226.9	227.1	228.0	228.6	229.2	231.1	232.6	232.8	233.4	235.1
175°	229.3	228.8	228.4	229.3	229.3	229.8	230.6	231.5	231.1	231.1	232.0
177.5°	230.1	229.8	229.3	229.8	229.8	229.8	230.1	230.8	230.1	229.8	230.1
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8



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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°	8.6	8.6	8.6	8.6	8.4	8.4	8.4	8.2
90°	11.7	12.1	12.6	13.5	13.0	13.5	13.9	13.5
92.5°	39.1	31.1	27.5	25.0	24.2	22.7	23.2	22.4
95°	167.4	113.5	88.8	72.1	63.3	59.0	55.8	54.0
97.5°	417.4	334.3	274.3	218.7	184.3	163.4	150.8	146.8
100°	548.3	510.6	456.2	390.1	343.2	309.2	291.1	291.6
102.5°	591.8	590.6	558.9	517.0	480.5	453.6	438.4	427.7
105°	604.5	651.0	659.9	647.8	626.4	608.7	593.9	591.5
107.5°	567.9	643.4	684.1	700.7	701.1	695.1	690.1	685.8
110°	532.9	618.5	677.1	709.6	722.7	726.4	725.5	724.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	498.3	585.7	651.4	693.2	717.1	728.6	732.1	732.3
115°	452.5	533.4	601.8	652.4	687.3	707.8	717.1	719.4
117.5°	419.2	489.1	550.5	601.9	638.3	661.7	675.1	678.2
120°	401.8	464.6	520.3	567.4	604.1	630.1	641.2	644.1
122.5°	388.0	444.8	496.5	540.1	572.8	596.2	608.5	612.0
125°	369.7	420.4	465.0	502.2	532.0	552.4	564.1	567.4
127.5°	353.7	398.9	439.2	473.0	499.5	517.0	527.5	530.5
130°	343.6	385.5	423.1	454.8	479.5	496.2	506.0	509.6
132.5°	334.4	372.8	407.9	438.1	461.2	477.9	486.6	489.2
135°	321.8	354.8	385.1	411.6	434.3	448.3	456.6	459.9
137.5°	310.4	337.5	363.5	386.5	405.6	419.7	426.8	428.9
140°	303.7	327.3	349.7	369.7	387.3	400.4	407.8	407.3
142.5°	297.3	317.7	337.0	354.4	369.5	381.1	387.8	387.3
145°	289.7	305.1	319.9	333.5	345.0	354.8	358.6	359.5
147.5°	283.5	295.6	307.7	317.2	326.0	332.6	336.2	336.6
150°	279.0	289.7	299.5	308.3	315.3	320.4	323.2	323.2
152.5°	274.9	284.1	292.8	300.1	305.6	310.4	312.0	312.0
155°	268.8	276.2	283.2	288.8	292.9	296.7	297.6	298.1
157.5°	262.3	268.5	273.9	278.3	281.9	284.7	285.4	285.4
160°	258.5	263.7	268.3	271.6	274.8	277.6	277.6	277.1
162.5°	254.1	258.4	262.8	265.6	267.7	270.2	270.2	269.7
165°	248.3	251.1	254.4	256.7	258.5	260.4	259.9	259.9
167.5°	243.3	245.4	247.3	249.0	249.8	251.1	250.6	250.6
170°	239.9	241.3	243.2	244.1	244.6	245.6	245.1	245.1
172.5°	237.0	238.0	239.5	240.0	240.1	241.1	240.3	239.9
175°	233.0	233.4	234.4	234.4	234.4	234.8	234.4	233.9
177.5°	230.5	230.8	231.2	231.2	230.8	231.2	230.5	230.5
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8

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