

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: P332496-840

Luminaire Tested: **S124DIP-S350D365U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332496-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D365U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3008.2 lumens
Efficiency: N/A
Efficacy: 148.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

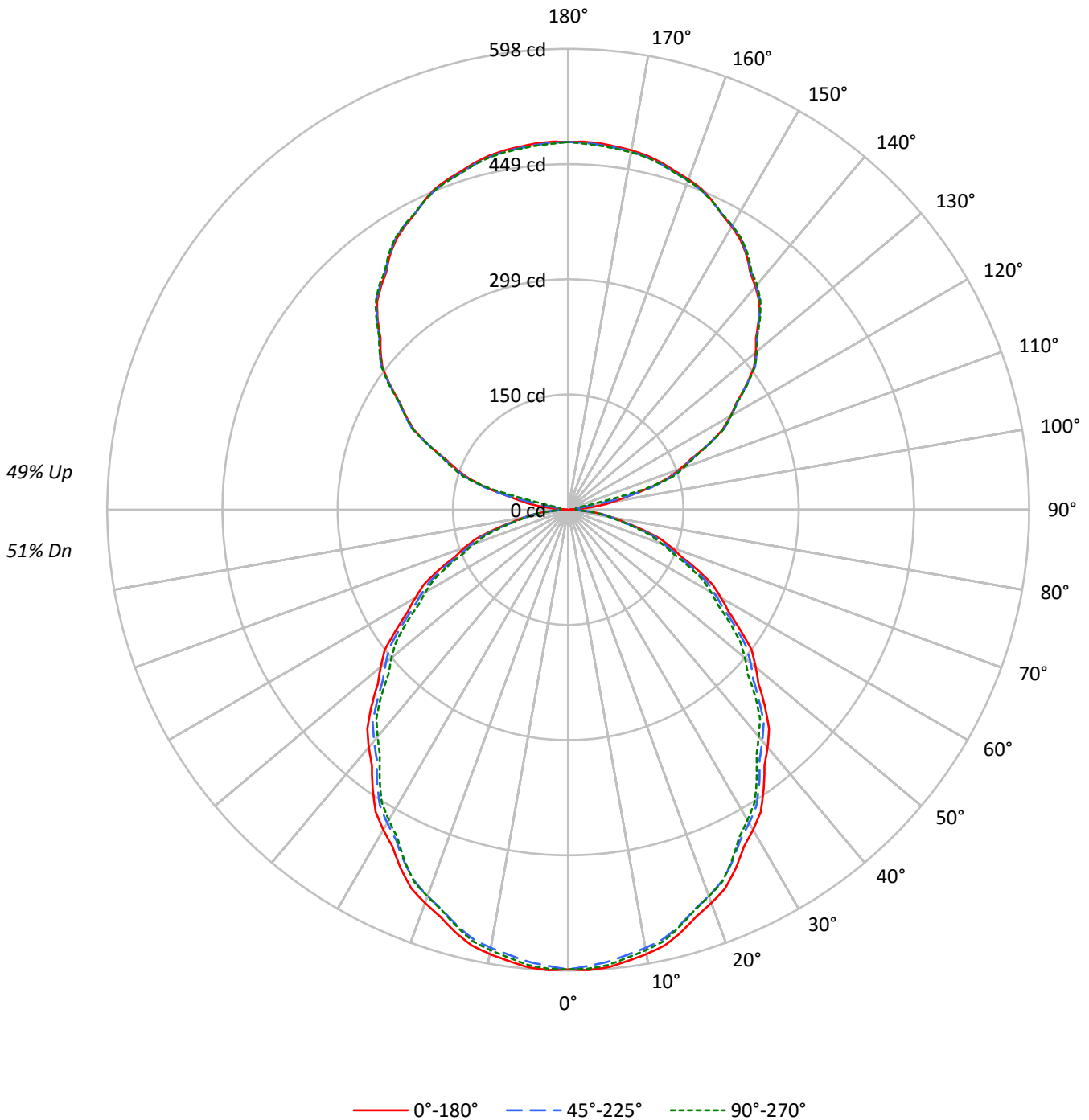
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	84	84	84	70	70	70	57	57	57	51
1	98	94	90	86	90	87	83	80	73	71	69	61	60	58	50	49	48	43
2	89	82	76	70	82	76	70	66	64	60	57	54	51	48	44	42	40	36
3	81	72	64	59	75	67	60	55	57	52	48	48	44	41	39	37	34	30
4	74	64	56	50	68	59	52	47	50	45	41	42	38	35	35	32	30	26
5	68	57	48	42	63	53	45	40	45	39	35	38	34	30	32	28	26	23
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	29	25	23	20
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16
9	50	38	31	25	46	36	29	24	31	25	22	26	22	19	22	19	16	14
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4816	4816	4816
5°	4830	4772	4807
10°	4800	4733	4757
15°	4741	4667	4679
20°	4665	4582	4587
25°	4577	4488	4475
30°	4470	4376	4336
35°	4357	4258	4202
40°	4241	4126	4051
45°	4120	3995	3919
50°	3986	3878	3758
55°	3842	3727	3606
60°	3696	3559	3450
65°	3534	3396	3261
70°	3352	3182	3059
75°	3072	2923	2848
80°	2734	2627	2552
85°	2399	2297	2251



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.2	1.9
10°-20°	158.3	5.3
20°-30°	233.0	7.7
30°-40°	270.8	9.0
40°-50°	270.9	9.0
50°-60°	236.9	7.9
60°-70°	175.9	5.8
70°-80°	100.0	3.3
80°-90°	30.2	1.0
90°-100°	16.3	0.5
100°-110°	104.1	3.5
110°-120°	199.1	6.6
120°-130°	252.7	8.4
130°-140°	270.4	9.0
140°-150°	252.8	8.4
150°-160°	203.9	6.8
160°-170°	131.5	4.4
170°-180°	45.3	1.5
0°-30°	447.4	14.9
0°-40°	718.3	23.9
0°-60°	1226.1	40.8
0°-90°	1532.2	50.9
90°-120°	319.5	10.6
90°-150°	1095.3	36.4
90°-180°	1476.0	49.1
0°-180°	3008.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	596	596	596	596	596	
5°	596	594	589	594	593	57
15°	567	565	558	561	560	160
25°	514	510	504	504	502	236
35°	442	439	432	429	426	276
45°	361	357	350	345	343	278
55°	273	271	265	259	256	244
65°	185	182	178	173	171	183
75°	98	96	94	92	91	105
85°	26	26	25	25	24	28
90°	1	5	8	10	11	2
95°	20	8	8	10	10	25
105°	107	110	111	114	102	112
115°	201	202	201	202	202	197
125°	282	283	283	284	284	252
135°	350	349	351	352	352	269
145°	403	404	404	405	406	252
155°	442	442	442	443	442	204
165°	466	465	465	467	464	132
175°	477	475	475	478	474	45
180°	477	477	477	477	477	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	598.0	597.8	597.5	597.3	597.0	596.4	595.5	594.6	593.7	592.7	593.6
5°	596.0	595.6	595.2	594.8	594.4	593.6	592.4	591.3	590.1	588.9	590.1
7.5°	590.6	590.1	589.7	589.3	588.9	587.9	586.6	585.4	584.1	582.8	583.7
10°	585.5	585.1	584.7	584.3	583.9	583.0	581.6	580.2	578.9	577.4	578.2
12.5°	579.1	578.7	578.2	577.7	577.3	576.4	574.9	573.5	572.0	570.6	571.5
15°	567.3	566.9	566.5	566.1	565.7	564.7	563.1	561.5	559.9	558.4	559.0
17.5°	553.3	552.8	552.3	551.8	551.2	550.2	548.7	547.1	545.6	544.1	544.5
20°	543.0	542.5	542.0	541.4	540.9	539.9	538.3	536.6	535.0	533.4	533.8
22.5°	531.9	531.2	530.5	529.8	529.1	528.0	526.3	524.8	523.2	521.6	522.2
25°	513.8	513.1	512.4	511.6	510.9	509.8	508.3	506.8	505.3	503.8	503.9
27.5°	493.2	492.4	491.7	490.9	490.2	489.1	487.7	486.4	484.9	483.5	483.3
30°	479.5	478.6	477.8	476.9	476.1	474.9	473.5	472.1	470.8	469.4	469.0
32.5°	464.9	464.1	463.3	462.6	461.8	460.7	459.3	457.8	456.4	454.8	454.3
35°	442.1	441.4	440.7	439.9	439.2	438.1	436.6	435.0	433.6	432.1	431.4
37.5°	418.2	417.5	416.8	416.2	415.5	414.3	412.7	411.1	409.5	407.9	407.1
40°	402.4	401.6	400.8	399.9	399.1	397.9	396.3	394.7	393.0	391.5	390.4
42.5°	385.7	385.2	384.7	384.2	383.6	382.4	380.7	378.9	377.2	375.5	374.2
45°	360.9	360.1	359.4	358.7	357.9	356.7	355.0	353.3	351.6	349.9	348.7
47.5°	335.0	334.5	334.0	333.5	333.0	331.9	330.3	328.7	327.2	325.6	324.3
50°	317.4	317.0	316.6	316.1	315.7	314.8	313.3	311.7	310.2	308.8	307.3
52.5°	300.2	299.6	299.1	298.6	298.1	297.1	295.5	294.0	292.4	290.8	289.5
55°	273.0	272.7	272.3	272.0	271.7	270.7	269.2	267.8	266.3	264.8	263.6
57.5°	246.9	246.6	246.2	245.9	245.5	244.6	243.1	241.7	240.1	238.7	237.5
60°	228.9	228.4	227.9	227.3	226.8	225.9	224.5	223.1	221.8	220.4	219.4
62.5°	211.4	211.0	210.5	210.1	209.5	208.6	207.1	205.7	204.2	202.8	201.9
65°	185.0	184.5	183.9	183.4	182.9	182.1	181.0	180.0	178.8	177.8	176.7
67.5°	158.4	157.9	157.4	156.9	156.4	155.7	154.7	153.7	152.7	151.6	150.6
70°	142.0	141.2	140.5	139.8	139.0	138.1	137.3	136.5	135.6	134.8	133.9
72.5°	124.4	123.6	122.9	122.2	121.4	120.7	120.0	119.4	118.7	118.0	117.2
75°	98.5	98.0	97.5	96.8	96.3	95.8	95.3	94.7	94.2	93.7	93.3
77.5°	73.7	73.5	73.2	73.0	72.8	72.4	72.0	71.5	71.0	70.6	70.4
80°	58.8	58.5	58.2	57.9	57.6	57.3	57.1	56.9	56.7	56.5	56.1
82.5°	44.2	44.1	43.9	43.8	43.6	43.5	43.5	43.5	43.4	43.4	43.3
85°	25.9	25.9	25.9	25.9	25.9	25.8	25.4	25.2	25.0	24.8	24.8
87.5°	10.2	10.2	10.3	10.4	10.5	10.6	10.6	10.7	10.7	10.7	10.8
90°	1.1	1.9	2.8	3.7	4.5	5.4	6.0	6.6	7.2	7.9	8.3
92.5°	4.5	4.5	4.5	4.6	4.6	5.0	5.7	6.3	7.0	7.6	8.1
95°	19.6	17.0	14.2	11.5	8.9	7.6	7.6	7.7	7.8	7.9	8.3
97.5°	41.7	43.3	45.0	46.8	48.4	44.8	36.0	27.2	18.3	9.4	9.5
100°	58.6	60.0	61.4	62.8	64.2	59.5	48.6	37.6	26.7	15.8	14.3
102.5°	77.4	78.5	79.5	80.5	81.6	81.4	80.0	78.6	77.1	75.6	61.1
105°	107.4	107.9	108.4	108.9	109.4	109.8	110.2	110.6	111.0	111.4	112.1
107.5°	135.3	135.5	135.8	136.0	136.3	136.6	137.2	137.7	138.3	138.9	139.2
110°	154.2	154.4	154.6	154.9	155.1	155.5	155.9	156.4	156.9	157.4	157.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.5	172.9	173.3	173.7	174.2	174.5	174.7	174.9	175.1	175.4	175.3
115°	200.6	200.9	201.1	201.3	201.6	201.6	201.6	201.5	201.4	201.3	201.5
117.5°	225.9	226.2	226.5	226.9	227.2	227.4	227.6	227.8	227.9	228.1	228.1
120°	243.1	243.4	243.7	244.0	244.3	244.4	244.4	244.3	244.2	244.1	244.3
122.5°	259.0	259.2	259.4	259.6	259.8	259.9	260.0	260.1	260.2	260.4	260.4
125°	282.0	282.3	282.6	282.9	283.3	283.3	283.2	283.0	282.9	282.7	282.9
127.5°	303.7	303.8	303.8	303.9	304.0	304.2	304.6	304.9	305.3	305.7	305.6
130°	317.6	317.7	317.8	317.9	318.0	318.1	318.3	318.6	318.8	319.1	319.1
132.5°	330.5	330.6	330.7	330.9	331.0	331.2	331.5	331.8	332.1	332.4	332.5
135°	349.7	349.7	349.6	349.5	349.4	349.5	349.9	350.2	350.5	350.8	351.0
137.5°	366.8	366.9	366.9	366.9	367.0	367.2	367.5	367.8	368.2	368.5	368.7
140°	378.0	378.1	378.3	378.4	378.6	378.7	378.9	379.1	379.2	379.4	379.6
142.5°	388.0	388.2	388.5	388.8	389.1	389.3	389.4	389.5	389.6	389.7	389.8
145°	403.3	403.5	403.7	404.0	404.2	404.3	404.3	404.3	404.3	404.3	404.5
147.5°	415.5	416.0	416.4	416.9	417.3	417.5	417.4	417.3	417.2	417.2	417.2
150°	424.3	424.6	425.0	425.4	425.7	425.8	425.7	425.6	425.5	425.5	425.5
152.5°	431.8	432.0	432.3	432.5	432.8	432.8	432.7	432.5	432.4	432.3	432.4
155°	442.2	442.3	442.3	442.4	442.5	442.4	442.2	441.9	441.7	441.5	441.8
157.5°	451.0	450.9	450.9	450.8	450.8	450.6	450.4	450.1	449.8	449.6	450.0
160°	456.2	455.9	455.7	455.4	455.1	455.0	454.9	454.8	454.7	454.6	455.1
162.5°	460.7	460.4	460.1	459.8	459.5	459.3	459.2	459.1	459.1	459.0	459.5
165°	466.5	466.1	465.6	465.2	464.8	464.6	464.6	464.6	464.6	464.6	465.3
167.5°	471.0	470.6	470.2	469.8	469.4	469.2	469.1	469.1	469.0	469.0	469.7
170°	473.6	473.1	472.6	472.2	471.7	471.5	471.6	471.7	471.7	471.8	472.4
172.5°	475.3	474.8	474.3	473.9	473.4	473.2	473.3	473.4	473.4	473.5	474.1
175°	477.2	476.7	476.3	475.7	475.2	475.0	475.1	475.2	475.3	475.3	476.2
177.5°	478.1	477.6	477.2	476.7	476.3	476.1	476.3	476.4	476.5	476.6	477.2
180°	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	596.5	596.5	596.5	596.5	596.5	596.5	596.5	596.5
2.5°	594.4	595.3	596.1	596.5	596.4	596.3	596.2	596.1
5°	591.3	592.4	593.6	594.0	593.8	593.6	593.4	593.2
7.5°	584.6	585.6	586.5	586.9	586.8	586.6	586.5	586.4
10°	579.2	580.0	580.9	581.2	581.0	580.7	580.5	580.3
12.5°	572.4	573.3	574.3	574.6	574.3	574.0	573.7	573.4
15°	559.6	560.2	560.9	561.0	560.7	560.4	560.1	559.8
17.5°	544.9	545.3	545.7	545.8	545.6	545.4	545.2	545.0
20°	534.1	534.4	534.7	534.8	534.5	534.3	534.1	533.9
22.5°	522.7	523.3	523.9	524.0	523.6	523.2	522.8	522.5
25°	504.0	504.1	504.2	504.1	503.6	503.2	502.8	502.4
27.5°	483.0	482.8	482.5	482.1	481.6	481.1	480.5	480.0
30°	468.6	468.2	467.7	467.3	466.7	466.2	465.6	465.1
32.5°	453.8	453.3	452.8	452.3	451.8	451.2	450.7	450.2
35°	430.6	429.9	429.1	428.5	428.0	427.5	426.9	426.4
37.5°	406.3	405.5	404.7	403.9	403.2	402.5	401.8	401.1
40°	389.4	388.3	387.3	386.5	385.9	385.4	384.9	384.4
42.5°	372.9	371.7	370.5	369.7	369.3	369.0	368.6	368.3
45°	347.6	346.4	345.3	344.5	344.2	343.9	343.6	343.3
47.5°	323.0	321.6	320.3	319.3	318.5	317.7	316.9	316.1
50°	305.8	304.4	302.9	301.7	301.1	300.5	299.8	299.2
52.5°	288.2	286.9	285.6	284.5	283.7	282.9	282.1	281.2
55°	262.3	260.9	259.7	258.7	258.1	257.5	256.8	256.2
57.5°	236.3	235.1	233.9	233.0	232.4	231.8	231.2	230.5
60°	218.4	217.5	216.5	215.8	215.3	214.7	214.2	213.7
62.5°	201.1	200.2	199.2	198.5	198.0	197.5	197.0	196.4
65°	175.7	174.6	173.6	172.8	172.3	171.7	171.2	170.7
67.5°	149.6	148.6	147.5	146.9	146.8	146.6	146.5	146.3
70°	133.1	132.3	131.4	130.8	130.5	130.2	129.9	129.6
72.5°	116.6	115.9	115.2	114.7	114.4	114.1	113.8	113.5
75°	92.8	92.4	92.0	91.7	91.6	91.5	91.4	91.3
77.5°	70.3	70.2	70.1	69.9	69.6	69.3	69.0	68.8
80°	55.9	55.7	55.5	55.4	55.2	55.1	55.0	54.9
82.5°	43.1	43.0	42.9	42.8	42.7	42.5	42.4	42.3
85°	24.8	24.8	24.8	24.8	24.7	24.6	24.4	24.3
87.5°	10.9	11.0	11.1	11.2	11.2	11.2	11.3	11.3
90°	8.8	9.3	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	8.5	9.0	9.5	9.7	9.8	9.8	9.8	9.9
95°	8.8	9.3	9.8	10.0	10.1	10.2	10.3	10.3
97.5°	9.5	9.6	9.6	9.7	9.8	9.8	9.9	10.0
100°	13.0	11.6	10.3	9.7	9.8	9.8	9.9	10.0
102.5°	46.6	32.0	17.5	10.2	10.2	10.2	10.3	10.3
105°	112.8	113.5	114.2	113.1	110.3	107.4	104.5	101.7
107.5°	139.6	139.9	140.3	140.6	140.9	141.2	141.5	141.8
110°	157.7	157.8	158.0	158.2	158.4	158.8	159.0	159.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	175.3	175.3	175.2	175.4	175.7	176.0	176.3	176.6
115°	201.6	201.8	202.0	202.0	202.0	202.0	202.0	202.0
117.5°	228.0	228.0	228.0	227.9	227.9	227.9	227.9	227.8
120°	244.4	244.6	244.8	244.8	244.6	244.4	244.3	244.1
122.5°	260.5	260.6	260.7	260.7	260.5	260.4	260.2	260.1
125°	283.2	283.4	283.6	283.8	283.9	284.0	284.0	284.1
127.5°	305.6	305.5	305.5	305.4	305.4	305.3	305.2	305.2
130°	319.2	319.3	319.4	319.4	319.4	319.4	319.4	319.4
132.5°	332.6	332.8	332.9	332.9	332.8	332.6	332.6	332.5
135°	351.1	351.3	351.4	351.6	351.7	351.9	352.1	352.2
137.5°	368.9	369.1	369.2	369.3	369.2	369.2	369.1	369.1
140°	379.8	380.1	380.3	380.5	380.6	380.6	380.7	380.8
142.5°	390.0	390.2	390.3	390.4	390.5	390.5	390.5	390.5
145°	404.6	404.7	404.7	404.8	405.0	405.2	405.3	405.5
147.5°	417.3	417.4	417.4	417.5	417.6	417.6	417.7	417.8
150°	425.5	425.5	425.5	425.5	425.6	425.7	425.7	425.8
152.5°	432.5	432.6	432.8	432.8	432.7	432.7	432.7	432.6
155°	442.1	442.4	442.7	442.8	442.5	442.3	442.1	441.8
157.5°	450.4	450.8	451.2	451.2	450.8	450.4	450.0	449.6
160°	455.7	456.2	456.6	456.6	456.2	455.7	455.1	454.6
162.5°	459.9	460.4	460.9	460.8	460.3	459.8	459.2	458.7
165°	466.0	466.6	467.3	467.2	466.5	465.7	465.0	464.3
167.5°	470.4	471.1	471.7	471.7	470.9	470.1	469.3	468.6
170°	473.1	473.7	474.3	474.2	473.5	472.7	471.9	471.1
172.5°	474.8	475.4	476.1	475.9	475.1	474.2	473.4	472.5
175°	476.9	477.6	478.3	478.2	477.2	476.3	475.2	474.3
177.5°	477.7	478.2	478.7	478.5	477.8	477.0	476.3	475.4
180°	477.2	477.2	477.2	477.2	477.2	477.2	477.2	477.2

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