

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: P332869-927

Luminaire Tested: **S124RDIP-S350D365U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332869-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S350D365U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2136.7 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

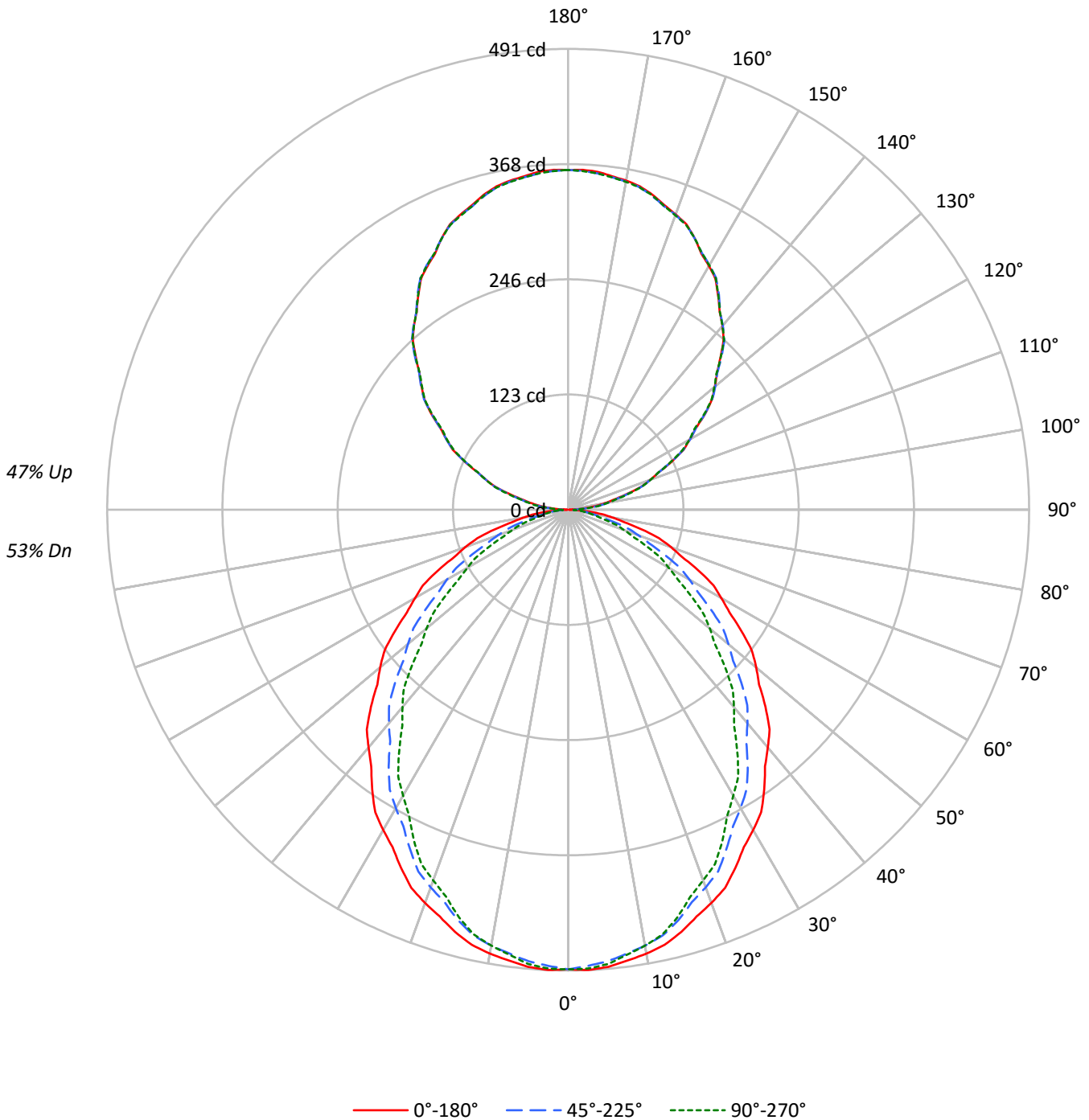
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	99	95	91	87	91	88	84	81	75	73	70	63	62	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43	38
3	82	73	66	60	76	68	62	57	58	54	50	50	46	43	41	39	37	33
4	76	65	57	51	70	60	54	48	52	47	43	44	40	37	37	34	32	28
5	69	58	50	44	64	54	47	42	47	41	37	40	36	32	34	30	28	25
6	64	52	44	38	59	49	41	36	42	37	32	36	32	28	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	26	22	20	17
9	51	39	32	27	48	37	30	25	32	27	23	28	24	20	24	20	18	16
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	2.2
10°-20°	128.3	6.0
20°-30°	185.2	8.7
30°-40°	210.0	9.8
40°-50°	202.8	9.5
50°-60°	168.6	7.9
60°-70°	116.4	5.4
70°-80°	59.0	2.8
80°-90°	16.2	0.8
90°-100°	23.9	1.1
100°-110°	70.7	3.3
110°-120°	120.0	5.6
120°-130°	158.3	7.4
130°-140°	177.8	8.3
140°-150°	174.7	8.2
150°-160°	146.9	6.9
160°-170°	97.7	4.6
170°-180°	34.2	1.6
0°-30°	359.5	16.8
0°-40°	569.5	26.7
0°-60°	940.8	44.0
0°-90°	1132.5	53.0
90°-120°	214.6	10.0
90°-150°	725.3	33.9
90°-180°	1004.0	47.0
0°-180°	2136.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	1	4	6	8	8	2
95°	17	19	21	22	22	19
105°	65	66	67	67	68	69
115°	122	122	122	121	121	120
125°	178	178	177	177	176	158
135°	229	231	231	230	230	177
145°	278	280	280	280	279	174
155°	319	319	319	320	319	147
165°	347	347	346	348	347	98
175°	361	360	360	362	360	34
180°	362	362	362	362	362	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.1	6.7	6.3	5.9	5.5	5.3	5.3	5.4	5.4	5.5	5.5
90°	0.9	1.5	2.2	2.9	3.6	4.2	4.7	5.1	5.6	6.2	6.5
92.5°	6.0	6.8	7.5	8.3	9.1	9.7	10.1	10.4	10.8	11.1	11.3
95°	16.8	17.3	17.9	18.5	19.0	19.6	20.0	20.4	20.8	21.3	21.5
97.5°	29.3	29.8	30.3	30.7	31.1	31.6	32.1	32.6	33.1	33.7	33.9
100°	39.2	39.5	39.7	39.9	40.2	40.6	41.1	41.7	42.3	42.9	42.9
102.5°	49.5	49.6	49.7	49.8	49.9	50.2	50.7	51.3	51.7	52.2	52.4
105°	65.2	65.3	65.4	65.4	65.4	65.6	65.9	66.1	66.4	66.6	66.8
107.5°	81.8	81.8	81.9	82.0	82.1	82.1	82.1	82.1	82.2	82.2	82.4
110°	92.9	93.1	93.2	93.3	93.4	93.5	93.4	93.3	93.2	93.2	93.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.6	104.6	104.6	104.6	104.6	104.6	104.5	104.4	104.3	104.2	104.2
115°	122.1	122.1	122.1	122.1	122.1	122.0	121.8	121.8	121.6	121.5	121.4
117.5°	138.5	138.6	138.6	138.6	138.7	138.7	138.6	138.6	138.4	138.3	138.2
120°	149.5	149.7	150.0	150.2	150.5	150.5	150.4	150.1	150.0	149.8	149.5
122.5°	160.9	161.0	161.1	161.2	161.3	161.3	161.2	161.1	161.1	161.0	160.7
125°	177.8	177.8	177.8	177.8	177.8	177.7	177.7	177.6	177.5	177.4	177.4
127.5°	193.1	193.2	193.5	193.6	193.8	193.8	193.8	193.6	193.5	193.5	193.3
130°	203.8	204.0	204.1	204.4	204.5	204.6	204.6	204.6	204.6	204.6	204.5
132.5°	214.8	214.9	215.0	215.2	215.3	215.3	215.3	215.2	215.2	215.2	215.0
135°	229.3	229.7	230.0	230.4	230.8	230.9	230.9	230.9	230.9	230.9	230.8
137.5°	245.0	245.3	245.4	245.6	245.7	245.9	246.0	246.1	246.2	246.3	246.1
140°	255.6	255.7	255.8	256.0	256.1	256.1	256.1	256.1	256.1	256.1	256.1
142.5°	265.2	265.3	265.5	265.5	265.7	265.8	265.7	265.6	265.6	265.5	265.5
145°	278.5	278.8	279.0	279.2	279.6	279.7	279.7	279.8	279.9	280.0	279.9
147.5°	291.8	292.1	292.3	292.6	292.9	293.0	293.0	292.9	292.9	292.9	292.8
150°	299.8	300.1	300.3	300.6	300.8	301.0	301.0	301.0	301.0	301.0	301.0
152.5°	307.4	307.6	307.7	307.8	308.0	308.1	308.2	308.2	308.2	308.3	308.5
155°	319.1	319.1	319.1	319.1	319.1	319.1	319.0	318.9	318.9	318.9	319.1
157.5°	329.0	328.8	328.8	328.7	328.5	328.4	328.4	328.4	328.4	328.4	328.6
160°	334.8	334.7	334.7	334.6	334.5	334.5	334.5	334.4	334.3	334.2	334.5
162.5°	340.2	340.0	339.8	339.7	339.5	339.5	339.4	339.3	339.2	339.1	339.5
165°	347.4	347.2	347.1	346.8	346.7	346.5	346.3	346.3	346.1	346.0	346.3
167.5°	352.9	352.7	352.4	352.1	351.9	351.7	351.8	351.8	351.8	351.8	352.2
170°	356.1	355.8	355.5	355.1	354.8	354.7	354.7	354.8	354.9	355.0	355.3
172.5°	358.3	358.1	357.7	357.5	357.3	357.1	357.1	357.2	357.2	357.2	357.6
175°	361.4	361.1	360.8	360.4	360.1	360.0	359.9	359.8	359.8	359.7	360.1
177.5°	362.4	362.2	361.9	361.6	361.4	361.3	361.3	361.3	361.3	361.3	361.6
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	5.5	5.5	5.5	5.5	5.6	5.7	5.8	5.9
90°	6.9	7.3	7.7	7.9	8.0	8.2	8.2	8.4
92.5°	11.6	11.7	12.0	12.1	12.2	12.3	12.4	12.4
95°	21.6	21.9	22.0	22.1	22.1	22.1	22.1	22.1
97.5°	34.1	34.3	34.5	34.6	34.6	34.6	34.6	34.6
100°	43.1	43.2	43.3	43.4	43.4	43.4	43.4	43.4
102.5°	52.6	52.8	52.9	53.1	53.1	53.2	53.2	53.2
105°	67.0	67.2	67.3	67.6	67.7	68.0	68.1	68.3
107.5°	82.6	82.8	82.9	83.0	83.0	83.0	83.0	82.9
110°	93.0	92.8	92.7	92.8	92.9	93.2	93.3	93.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	104.2	104.1	104.1	104.1	104.2	104.2	104.2	104.3
115°	121.4	121.3	121.2	121.2	121.1	121.0	121.0	121.0
117.5°	137.9	137.7	137.5	137.4	137.2	137.0	137.0	136.8
120°	149.2	148.9	148.5	148.5	148.5	148.7	148.8	148.9
122.5°	160.6	160.3	160.1	159.9	159.7	159.5	159.2	159.0
125°	177.2	177.1	177.0	176.8	176.7	176.6	176.5	176.3
127.5°	193.2	193.1	192.9	192.8	192.7	192.7	192.5	192.4
130°	204.4	204.2	204.1	203.9	203.7	203.4	203.2	203.0
132.5°	214.9	214.8	214.7	214.5	214.4	214.4	214.3	214.1
135°	230.7	230.6	230.4	230.3	230.1	229.9	229.7	229.6
137.5°	246.0	245.8	245.7	245.6	245.6	245.7	245.7	245.7
140°	256.0	256.0	255.9	255.8	255.8	255.7	255.6	255.6
142.5°	265.5	265.5	265.5	265.5	265.5	265.5	265.5	265.5
145°	279.8	279.7	279.7	279.6	279.4	279.2	279.0	278.8
147.5°	292.8	292.7	292.6	292.6	292.6	292.5	292.4	292.4
150°	301.0	301.0	301.0	300.9	300.9	300.8	300.7	300.6
152.5°	308.6	308.8	309.0	308.9	308.7	308.6	308.4	308.2
155°	319.3	319.6	319.8	319.8	319.6	319.3	319.1	318.9
157.5°	328.8	329.0	329.2	329.2	328.9	328.8	328.5	328.3
160°	334.6	334.8	335.0	334.9	334.6	334.3	334.0	333.7
162.5°	339.8	340.2	340.5	340.5	340.2	339.9	339.6	339.3
165°	346.7	347.1	347.5	347.5	347.3	347.1	346.8	346.6
167.5°	352.6	352.9	353.3	353.3	352.9	352.5	352.1	351.7
170°	355.7	356.1	356.5	356.4	356.0	355.5	355.1	354.7
172.5°	358.1	358.5	358.9	358.9	358.5	358.0	357.6	357.1
175°	360.6	361.0	361.5	361.5	361.0	360.6	360.1	359.7
177.5°	361.9	362.3	362.7	362.7	362.3	361.9	361.5	361.1
180°	361.9	361.9	361.9	361.9	361.9	361.9	361.9	361.9

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