

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: P331917-840

Luminaire Tested: **S123DIP-S560D365U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331917-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D365U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3601.1 lumens
Efficiency: N/A
Efficacy: 130.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

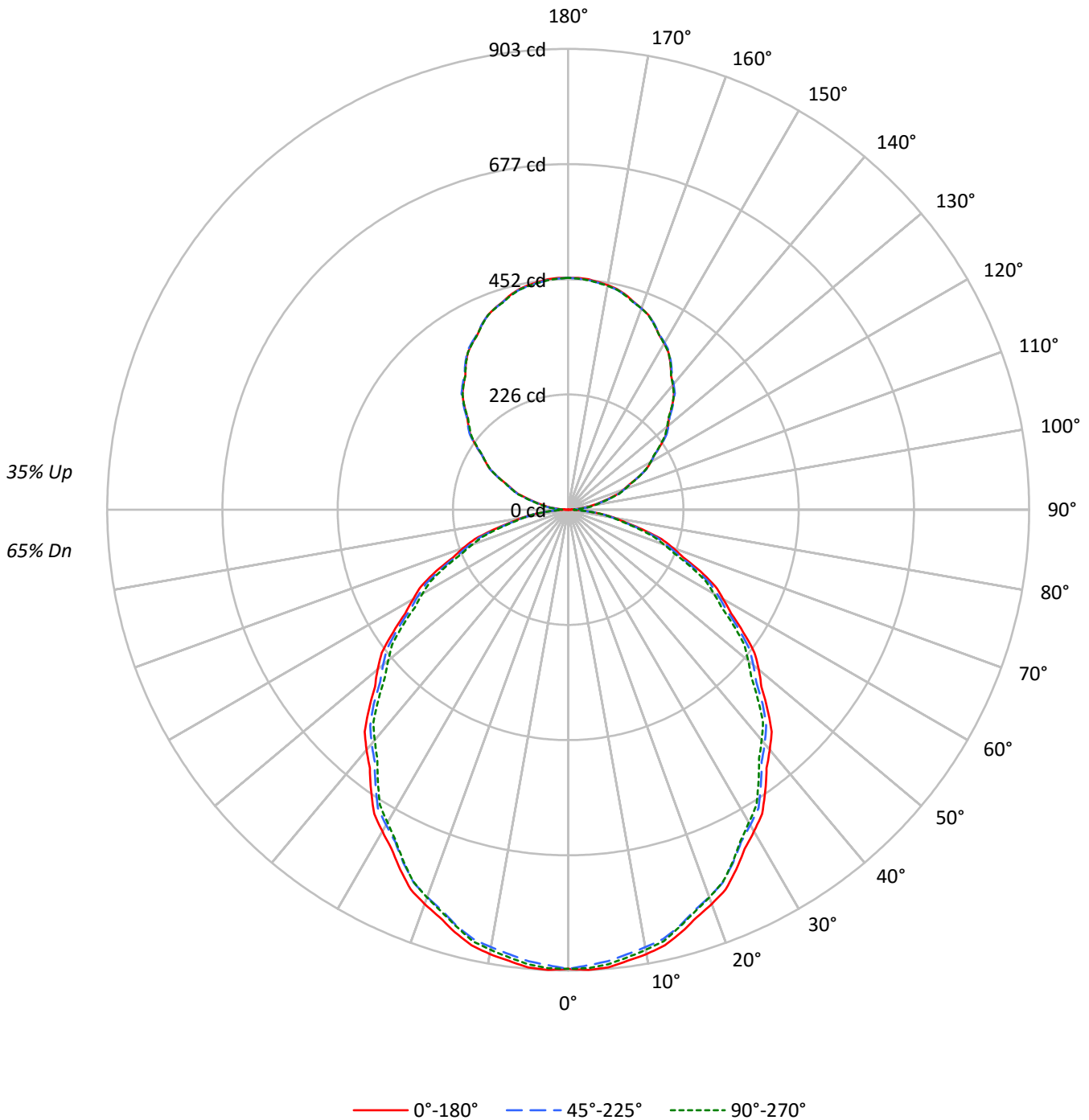
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	101	97	93	89	95	91	87	84	80	78	75	71	69	67	62	60	59	55
2	92	84	78	73	86	80	74	69	70	66	62	62	59	56	54	52	50	46
3	84	74	67	61	79	70	63	58	62	57	52	55	51	47	48	45	42	39
4	77	66	58	51	72	62	55	49	55	49	45	49	44	40	43	39	36	33
5	71	59	50	44	66	55	48	42	49	43	39	44	39	35	39	35	32	29
6	65	53	44	38	61	50	42	37	45	38	34	40	35	31	35	31	28	25
7	60	48	39	34	56	45	38	32	41	34	30	36	31	27	32	28	25	22
8	56	43	35	30	53	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	31	26	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9684	9684	9684
5°	9729	9596	9662
10°	9664	9512	9571
15°	9551	9404	9423
20°	9419	9251	9260
25°	9242	9069	9049
30°	9047	8866	8797
35°	8843	8650	8539
40°	8630	8413	8283
45°	8397	8196	7995
50°	8162	7927	7708
55°	7854	7651	7418
60°	7543	7326	7093
65°	7272	6976	6757
70°	6864	6571	6279
75°	6276	6047	5793
80°	5659	5424	5368
85°	4965	4780	4594



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.7	2.4
10°-20°	239.3	6.6
20°-30°	353.5	9.8
30°-40°	412.9	11.5
40°-50°	415.1	11.5
50°-60°	364.6	10.1
60°-70°	271.7	7.5
70°-80°	154.8	4.3
80°-90°	45.8	1.3
90°-100°	29.6	0.8
100°-110°	88.6	2.5
110°-120°	150.7	4.2
120°-130°	198.2	5.5
130°-140°	222.7	6.2
140°-150°	219.0	6.1
150°-160°	184.3	5.1
160°-170°	122.7	3.4
170°-180°	43.0	1.2
0°-30°	677.5	18.8
0°-40°	1090.4	30.3
0°-60°	1870.2	51.9
0°-90°	2342.4	65.0
90°-120°	268.8	7.5
90°-150°	908.7	25.2
90°-180°	1259.0	35.0
0°-180°	3601.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	900	900	900	900	900	
5°	900	896	888	895	894	85
15°	857	854	844	850	846	242
25°	778	773	764	764	762	358
35°	673	668	658	654	650	421
45°	552	548	538	529	525	426
55°	418	417	408	399	395	375
65°	286	281	274	268	265	282
75°	151	148	145	142	139	161
85°	40	39	39	37	37	44
90°	0	4	9	10	11	4
95°	21	24	26	28	28	24
105°	80	81	84	84	85	86
115°	152	153	152	152	152	150
125°	222	223	222	221	219	198
135°	288	290	290	288	288	222
145°	349	350	351	351	349	218
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	902.7	902.2	901.7	901.1	900.6	899.5	898.0	896.5	895.0	893.5	894.8
5°	900.4	899.6	898.7	897.9	897.0	895.6	893.7	891.8	890.0	888.1	889.8
7.5°	891.6	890.8	889.9	889.1	888.2	886.8	884.8	882.8	880.9	879.0	880.5
10°	884.2	883.3	882.5	881.6	880.8	879.2	877.0	874.7	872.5	870.3	871.8
12.5°	874.3	873.5	872.8	872.1	871.4	870.0	867.9	865.8	863.7	861.6	862.7
15°	857.1	856.5	855.8	855.1	854.3	852.9	850.7	848.5	846.2	843.9	845.4
17.5°	837.2	836.3	835.4	834.5	833.5	832.0	829.8	827.6	825.4	823.0	824.0
20°	822.3	821.3	820.2	819.2	818.2	816.6	814.4	812.1	809.8	807.6	808.3
22.5°	805.6	804.6	803.5	802.5	801.4	799.8	797.6	795.4	793.1	790.9	791.4
25°	778.2	777.2	776.2	775.2	774.1	772.4	770.2	768.0	765.8	763.6	763.7
27.5°	749.0	748.0	747.0	746.0	745.0	743.3	740.8	738.5	736.1	733.7	733.8
30°	727.9	727.1	726.2	725.4	724.5	722.9	720.4	718.0	715.7	713.3	713.3
32.5°	706.9	705.8	704.6	703.5	702.4	700.8	699.0	697.1	695.3	693.5	692.5
35°	673.0	672.0	671.0	669.9	668.9	667.2	665.0	662.8	660.6	658.3	657.3
37.5°	638.3	637.0	635.7	634.4	633.1	631.4	629.0	626.8	624.5	622.3	621.1
40°	614.2	613.2	612.2	611.2	610.1	608.3	605.9	603.6	601.2	598.7	597.3
42.5°	590.1	589.0	587.7	586.5	585.4	583.6	581.2	578.9	576.4	574.0	572.6
45°	551.6	550.9	550.2	549.5	548.8	547.3	545.1	542.9	540.7	538.4	536.3
47.5°	513.3	512.3	511.4	510.4	509.4	507.8	505.7	503.6	501.5	499.4	497.4
50°	487.4	486.5	485.6	484.7	483.9	482.4	480.1	477.9	475.6	473.4	471.5
52.5°	460.1	459.5	459.0	458.4	457.8	456.3	453.9	451.6	449.2	446.9	445.2
55°	418.5	418.3	418.2	418.0	417.8	416.6	414.3	412.1	409.9	407.7	405.8
57.5°	378.9	378.3	377.7	377.2	376.6	375.4	373.5	371.8	370.0	368.2	366.6
60°	350.4	350.2	350.1	349.9	349.7	348.6	346.6	344.5	342.4	340.3	338.8
62.5°	325.1	324.6	324.2	323.8	323.3	322.0	319.9	317.9	315.8	313.8	312.3
65°	285.5	284.6	283.8	282.9	282.1	280.7	279.0	277.3	275.6	273.9	272.5
67.5°	243.5	242.8	242.0	241.3	240.4	239.4	238.1	236.8	235.5	234.3	233.1
70°	218.1	217.1	216.1	215.1	214.0	213.0	212.0	211.0	209.8	208.8	207.6
72.5°	191.6	190.8	190.1	189.2	188.5	187.5	186.4	185.2	184.0	182.9	181.8
75°	150.9	150.2	149.5	148.8	148.1	147.5	146.9	146.4	145.9	145.4	144.6
77.5°	114.8	114.4	114.0	113.7	113.3	112.8	112.2	111.6	110.9	110.3	109.8
80°	91.3	90.8	90.3	89.8	89.2	88.8	88.5	88.1	87.8	87.5	87.3
82.5°	68.4	68.3	68.2	68.1	68.0	67.9	67.9	67.8	67.7	67.7	67.3
85°	40.2	39.9	39.6	39.2	38.9	38.7	38.7	38.7	38.7	38.7	38.4
87.5°	16.2	16.0	15.7	15.3	15.1	15.0	15.1	15.1	15.2	15.3	15.2
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.6	8.6	8.9
92.5°	8.7	9.2	9.7	10.3	10.8	11.3	11.9	12.5	13.1	13.7	13.9
95°	21.1	21.6	22.1	22.7	23.2	23.8	24.5	25.1	25.8	26.5	26.8
97.5°	37.4	37.8	38.3	38.7	39.1	39.5	40.0	40.4	40.9	41.3	41.7
100°	48.6	49.0	49.5	50.0	50.4	50.9	51.3	51.7	52.1	52.4	52.7
102.5°	61.4	61.7	61.9	62.2	62.5	62.9	63.4	64.0	64.5	65.0	65.2
105°	80.3	80.5	80.6	80.8	80.9	81.4	82.1	82.8	83.5	84.2	84.2
107.5°	102.3	102.4	102.5	102.6	102.7	102.8	103.1	103.4	103.7	104.0	104.2
110°	116.0	116.1	116.3	116.4	116.6	116.7	116.9	117.1	117.2	117.4	117.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.3	130.4	130.5	130.6	130.7	130.7	130.8	130.8	130.8	130.9	131.2
115°	151.7	151.9	152.2	152.4	152.6	152.7	152.5	152.4	152.2	152.0	152.1
117.5°	173.2	173.4	173.6	173.7	173.9	173.8	173.6	173.4	173.2	173.0	173.0
120°	186.6	187.1	187.6	188.0	188.5	188.5	188.2	187.8	187.4	187.0	186.9
122.5°	200.7	201.0	201.4	201.7	202.1	202.1	201.9	201.7	201.5	201.3	201.1
125°	222.0	222.2	222.5	222.7	223.0	223.0	222.8	222.7	222.5	222.4	222.0
127.5°	241.7	242.2	242.7	243.2	243.7	243.9	243.7	243.5	243.4	243.2	242.8
130°	254.8	255.4	256.1	256.7	257.3	257.5	257.3	257.1	256.8	256.6	256.3
132.5°	267.9	268.6	269.2	269.8	270.4	270.7	270.5	270.3	270.1	270.0	269.6
135°	288.0	288.5	288.9	289.4	289.9	290.1	290.0	289.9	289.8	289.8	289.4
137.5°	306.6	307.0	307.3	307.7	308.1	308.4	308.6	308.8	309.0	309.2	308.9
140°	319.4	319.8	320.2	320.6	321.0	321.2	321.3	321.3	321.4	321.5	321.4
142.5°	331.1	331.5	331.9	332.3	332.6	333.0	333.2	333.3	333.4	333.6	333.5
145°	349.4	349.5	349.7	349.8	350.0	350.2	350.4	350.7	350.9	351.1	351.1
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	367.7
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	899.7	899.7	899.7	899.7	899.7	899.7	899.7	899.7
2.5°	896.3	897.6	899.0	899.6	899.5	899.3	899.2	899.1
5°	891.5	893.2	894.9	895.6	895.2	894.9	894.6	894.2
7.5°	882.0	883.5	885.1	885.8	885.6	885.3	885.1	884.9
10°	873.3	874.9	876.5	877.1	876.8	876.4	876.1	875.7
12.5°	863.8	865.1	866.2	866.6	866.4	866.2	866.0	865.8
15°	846.8	848.1	849.5	849.6	848.6	847.6	846.6	845.6
17.5°	825.1	826.0	827.0	827.2	826.9	826.5	826.1	825.7
20°	809.0	809.7	810.3	810.4	809.9	809.4	808.9	808.4
22.5°	792.0	792.5	793.1	793.0	792.4	791.7	791.1	790.4
25°	763.9	764.1	764.2	764.1	763.6	763.1	762.4	761.9
27.5°	734.0	734.1	734.2	734.0	733.3	732.7	732.0	731.3
30°	713.3	713.3	713.3	712.7	711.4	710.2	709.0	707.8
32.5°	691.6	690.5	689.5	688.7	688.1	687.5	686.8	686.2
35°	656.2	655.2	654.2	653.3	652.4	651.6	650.7	649.8
37.5°	619.8	618.5	617.3	616.4	615.9	615.3	614.8	614.2
40°	596.0	594.6	593.3	592.2	591.5	590.9	590.2	589.5
42.5°	571.3	569.9	568.5	567.4	566.7	566.1	565.4	564.7
45°	534.3	532.2	530.2	528.7	527.9	526.9	526.1	525.2
47.5°	495.3	493.3	491.3	489.9	489.2	488.4	487.7	486.9
50°	469.7	467.8	465.9	464.4	463.3	462.3	461.3	460.3
52.5°	443.6	442.0	440.4	439.0	438.0	437.0	436.0	434.9
55°	403.8	402.0	400.1	398.7	397.9	397.0	396.2	395.3
57.5°	364.9	363.1	361.5	360.1	359.1	358.2	357.2	356.2
60°	337.3	335.8	334.2	333.0	332.1	331.2	330.4	329.5
62.5°	310.6	309.1	307.6	306.5	305.9	305.4	304.8	304.2
65°	271.0	269.7	268.3	267.4	266.9	266.4	265.9	265.3
67.5°	231.9	230.7	229.4	228.4	227.7	227.0	226.3	225.6
70°	206.4	205.3	204.1	203.0	202.2	201.3	200.5	199.5
72.5°	180.8	179.7	178.6	177.8	177.4	176.9	176.5	176.0
75°	143.7	142.9	142.0	141.3	140.8	140.3	139.8	139.3
77.5°	109.2	108.6	108.0	107.7	107.7	107.7	107.7	107.7
80°	87.1	86.8	86.7	86.6	86.6	86.6	86.6	86.6
82.5°	67.0	66.7	66.3	66.1	66.0	65.8	65.7	65.6
85°	38.0	37.7	37.3	37.2	37.2	37.2	37.2	37.2
87.5°	15.1	15.1	15.0	15.0	15.0	15.0	15.1	15.1
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	14.2	14.4	14.7	14.8	14.7	14.6	14.5	14.4
95°	27.1	27.4	27.7	27.9	27.9	27.9	27.9	27.9
97.5°	42.0	42.4	42.8	42.9	42.9	42.9	42.8	42.8
100°	52.9	53.2	53.4	53.6	53.7	53.9	54.1	54.2
102.5°	65.5	65.7	65.9	66.0	66.0	66.0	65.9	65.9
105°	84.2	84.2	84.2	84.3	84.4	84.6	84.8	84.9
107.5°	104.5	104.7	105.0	105.1	105.0	104.9	104.8	104.7
110°	118.1	118.4	118.7	118.8	118.6	118.5	118.3	118.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	131.6	132.0	132.4	132.5	132.5	132.5	132.4	132.4
115°	152.2	152.3	152.4	152.4	152.3	152.2	152.1	152.0
117.5°	173.0	173.0	173.0	172.8	172.6	172.4	172.2	172.0
120°	186.8	186.7	186.7	186.5	186.4	186.2	186.1	185.9
122.5°	200.9	200.7	200.5	200.3	200.1	199.8	199.5	199.3
125°	221.7	221.4	221.1	220.8	220.5	220.2	219.7	219.4
127.5°	242.3	241.9	241.4	241.0	240.7	240.2	239.9	239.5
130°	256.0	255.6	255.3	254.9	254.4	253.8	253.3	252.7
132.5°	269.2	268.8	268.5	268.1	267.6	267.2	266.8	266.4
135°	289.1	288.8	288.5	288.3	288.1	287.9	287.8	287.6
137.5°	308.6	308.3	307.9	307.6	307.3	307.0	306.7	306.4
140°	321.3	321.3	321.2	320.9	320.3	319.8	319.2	318.7
142.5°	333.4	333.3	333.3	333.0	332.5	332.1	331.6	331.2
145°	351.0	350.9	350.8	350.6	350.3	350.0	349.7	349.4
147.5°	367.7	367.7	367.7	367.4	367.0	366.5	366.0	365.5
150°	377.9	377.9	377.9	377.7	377.2	376.8	376.3	375.8
152.5°	387.3	387.5	387.6	387.4	387.0	386.6	386.2	385.8
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

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