

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: P331917-935

Luminaire Tested: **S123DIP-S560D365U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331917-935  
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-S560D365U935-4F0-1E-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**

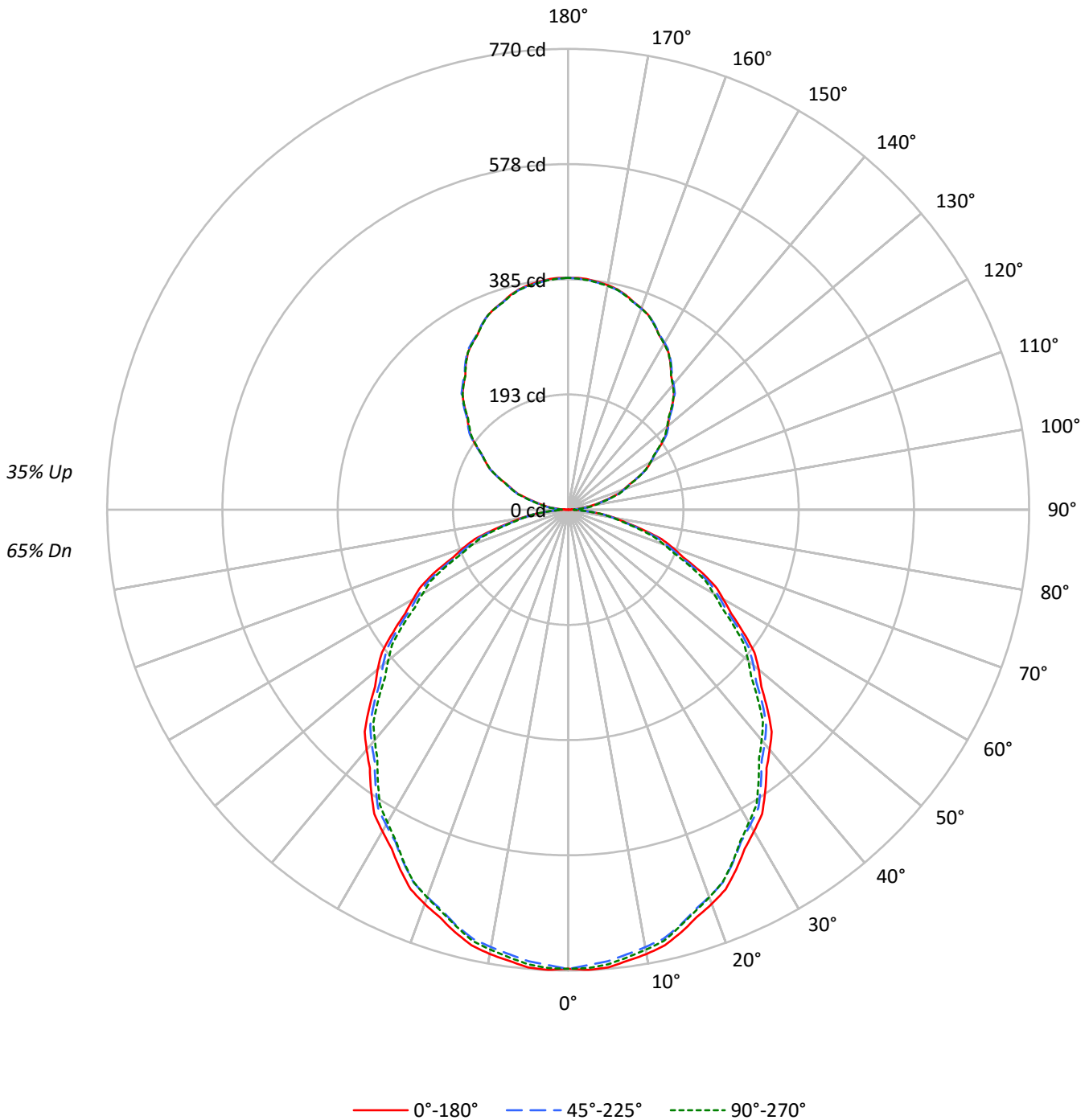
Lumens per Lamp: N/A  
Luminaire Lumens: 3070.3 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 27.5  
Input Voltage (V): 120  
Input Current (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	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°	8257	8257	8257
5°	8295	8182	8238
10°	8240	8110	8160
15°	8143	8018	8033
20°	8031	7887	7895
25°	7880	7732	7715
30°	7713	7558	7501
35°	7540	7376	7281
40°	7359	7173	7062
45°	7159	6987	6817
50°	6958	6759	6571
55°	6696	6523	6324
60°	6433	6247	6047
65°	6199	5947	5761
70°	5854	5605	5353
75°	5348	5157	4937
80°	4823	4624	4581
85°	4236	4076	3915



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.3	2.4
10°-20°	204.0	6.6
20°-30°	301.4	9.8
30°-40°	352.0	11.5
40°-50°	353.9	11.5
50°-60°	310.9	10.1
60°-70°	231.6	7.5
70°-80°	132.0	4.3
80°-90°	39.0	1.3
90°-100°	25.2	0.8
100°-110°	75.5	2.5
110°-120°	128.5	4.2
120°-130°	169.0	5.5
130°-140°	189.9	6.2
140°-150°	186.7	6.1
150°-160°	157.2	5.1
160°-170°	104.6	3.4
170°-180°	36.6	1.2
0°-30°	577.6	18.8
0°-40°	929.7	30.3
0°-60°	1594.5	51.9
0°-90°	1997.1	65.0
90°-120°	229.2	7.5
90°-150°	774.8	25.2
90°-180°	1073.0	34.9
0°-180°	3070.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	768	764	757	763	762	73
15°	731	728	720	724	721	206
25°	664	659	651	651	650	305
35°	574	570	561	557	554	359
45°	470	467	459	451	448	363
55°	357	356	348	340	337	319
65°	243	240	234	228	226	240
75°	129	126	124	121	119	138
85°	34	33	33	32	32	38
90°	0	3	7	8	9	3
95°	18	20	23	24	24	20
105°	68	69	72	72	72	73
115°	129	130	130	130	130	128
125°	189	190	190	188	187	169
135°	246	247	247	246	245	189
145°	298	298	299	299	298	186
155°	341	341	341	342	340	157
165°	372	371	371	372	370	105
175°	386	385	385	387	385	37
180°	387	387	387	387	387	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	769.6	769.2	768.8	768.3	767.8	766.9	765.6	764.3	763.1	761.8	762.9
5°	767.7	767.0	766.2	765.5	764.7	763.6	762.0	760.3	758.8	757.2	758.6
7.5°	760.2	759.5	758.7	758.0	757.2	756.0	754.4	752.7	751.1	749.4	750.7
10°	753.9	753.1	752.4	751.7	751.0	749.6	747.7	745.8	743.9	742.0	743.3
12.5°	745.5	744.8	744.2	743.6	743.0	741.8	739.9	738.1	736.4	734.6	735.6
15°	730.7	730.2	729.6	729.0	728.4	727.2	725.3	723.4	721.4	719.5	720.7
17.5°	713.8	713.0	712.2	711.4	710.7	709.4	707.5	705.6	703.7	701.7	702.6
20°	701.1	700.3	699.3	698.4	697.6	696.2	694.3	692.4	690.4	688.5	689.1
22.5°	686.8	686.0	685.1	684.2	683.3	681.9	680.0	678.1	676.2	674.3	674.8
25°	663.5	662.6	661.8	660.9	660.0	658.6	656.7	654.8	652.9	651.0	651.1
27.5°	638.6	637.7	636.9	636.0	635.2	633.7	631.6	629.6	627.6	625.5	625.6
30°	620.6	619.9	619.1	618.5	617.7	616.3	614.2	612.2	610.2	608.1	608.1
32.5°	602.7	601.8	600.7	599.8	598.8	597.5	596.0	594.3	592.8	591.2	590.4
35°	573.8	572.9	572.0	571.2	570.3	568.9	567.0	565.1	563.2	561.3	560.4
37.5°	544.2	543.1	542.0	540.9	539.8	538.3	536.3	534.4	532.4	530.5	529.5
40°	523.7	522.8	521.9	521.1	520.1	518.7	516.6	514.6	512.6	510.5	509.3
42.5°	503.1	502.1	501.1	500.1	499.1	497.6	495.5	493.5	491.5	489.4	488.2
45°	470.3	469.7	469.1	468.5	467.9	466.7	464.8	462.9	461.0	459.0	457.3
47.5°	437.6	436.8	436.0	435.1	434.3	432.9	431.2	429.4	427.6	425.8	424.0
50°	415.5	414.7	414.1	413.3	412.6	411.3	409.3	407.4	405.5	403.6	402.0
52.5°	392.3	391.8	391.3	390.8	390.3	389.0	387.0	385.0	383.0	381.0	379.6
55°	356.8	356.6	356.5	356.4	356.2	355.2	353.3	351.4	349.5	347.6	345.9
57.5°	323.0	322.5	322.0	321.6	321.1	320.0	318.5	317.0	315.5	313.9	312.5
60°	298.8	298.6	298.5	298.3	298.2	297.2	295.5	293.7	292.0	290.2	288.9
62.5°	277.2	276.7	276.4	276.0	275.6	274.6	272.8	271.0	269.2	267.5	266.2
65°	243.4	242.6	241.9	241.2	240.5	239.4	237.9	236.4	235.0	233.5	232.3
67.5°	207.6	207.0	206.3	205.7	205.0	204.1	203.0	201.9	200.8	199.8	198.7
70°	186.0	185.1	184.3	183.4	182.4	181.6	180.7	179.9	178.9	178.1	177.0
72.5°	163.3	162.6	162.0	161.4	160.7	159.9	158.9	157.9	156.9	155.9	155.0
75°	128.6	128.0	127.4	126.8	126.3	125.8	125.3	124.8	124.4	124.0	123.3
77.5°	97.9	97.6	97.2	96.9	96.6	96.2	95.7	95.1	94.5	94.0	93.6
80°	77.8	77.4	77.0	76.5	76.0	75.7	75.4	75.1	74.8	74.6	74.4
82.5°	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.8	57.7	57.7	57.3
85°	34.3	34.0	33.8	33.4	33.1	33.0	33.0	33.0	33.0	33.0	32.7
87.5°	13.8	13.6	13.3	13.1	12.9	12.8	12.9	12.9	13.0	13.1	13.0
90°	0.3	0.9	1.6	2.3	3.0	3.8	4.6	5.5	6.5	7.3	7.6
92.5°	7.4	7.8	8.3	8.8	9.2	9.6	10.2	10.7	11.2	11.7	11.9
95°	18.0	18.4	18.9	19.4	19.8	20.3	20.9	21.4	22.0	22.6	22.8
97.5°	31.9	32.2	32.6	33.0	33.3	33.7	34.1	34.4	34.9	35.2	35.6
100°	41.4	41.8	42.2	42.6	43.0	43.4	43.7	44.1	44.4	44.7	44.9
102.5°	52.3	52.6	52.8	53.0	53.3	53.6	54.1	54.6	55.0	55.4	55.6
105°	68.4	68.6	68.7	68.9	69.0	69.4	70.0	70.6	71.2	71.8	71.8
107.5°	87.2	87.3	87.4	87.5	87.6	87.6	87.9	88.2	88.4	88.7	88.9
110°	98.9	99.0	99.2	99.3	99.4	99.5	99.7	99.9	100.0	100.1	100.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.1	111.2	111.2	111.3	111.4	111.4	111.5	111.5	111.5	111.6	111.8
115°	129.3	129.5	129.8	129.9	130.1	130.2	130.0	129.9	129.8	129.6	129.7
117.5°	147.7	147.8	148.0	148.1	148.3	148.2	148.0	147.8	147.7	147.5	147.5
120°	159.1	159.5	160.0	160.3	160.7	160.7	160.5	160.1	159.8	159.5	159.4
122.5°	171.1	171.3	171.7	171.9	172.3	172.3	172.1	171.9	171.8	171.6	171.4
125°	189.2	189.4	189.7	189.9	190.1	190.1	189.9	189.9	189.7	189.6	189.2
127.5°	206.0	206.5	206.9	207.3	207.8	207.9	207.8	207.6	207.5	207.3	207.0
130°	217.2	217.7	218.3	218.9	219.4	219.6	219.4	219.2	219.0	218.8	218.5
132.5°	228.4	229.0	229.5	230.1	230.6	230.8	230.7	230.5	230.3	230.2	229.9
135°	245.6	246.0	246.3	246.8	247.2	247.4	247.3	247.2	247.1	247.1	246.8
137.5°	261.4	261.7	262.0	262.3	262.7	262.9	263.1	263.3	263.5	263.6	263.4
140°	272.3	272.7	273.0	273.4	273.7	273.9	274.0	274.0	274.1	274.1	274.1
142.5°	282.3	282.7	283.0	283.4	283.6	283.9	284.0	284.1	284.2	284.4	284.3
145°	297.9	298.0	298.2	298.3	298.4	298.6	298.8	299.0	299.2	299.4	299.4
147.5°	311.5	311.8	312.0	312.3	312.5	312.7	312.9	313.1	313.2	313.5	313.5
150°	321.0	321.2	321.2	321.4	321.6	321.7	321.8	321.9	322.1	322.2	322.2
152.5°	328.8	329.0	329.2	329.3	329.6	329.7	329.8	329.8	329.9	330.0	330.1
155°	341.1	341.1	341.1	341.1	341.1	341.1	341.2	341.2	341.3	341.4	341.6
157.5°	351.5	351.5	351.4	351.3	351.2	351.2	351.3	351.3	351.4	351.5	351.7
160°	358.1	358.0	357.8	357.7	357.6	357.5	357.5	357.5	357.5	357.5	357.8
162.5°	363.9	363.8	363.6	363.4	363.2	363.2	363.2	363.3	363.3	363.3	363.7
165°	371.5	371.3	371.1	370.9	370.7	370.6	370.6	370.6	370.6	370.6	371.0
167.5°	377.5	377.3	377.0	376.7	376.4	376.3	376.4	376.4	376.5	376.6	376.9
170°	380.9	380.6	380.4	380.1	379.9	379.7	379.7	379.7	379.7	379.7	380.2
172.5°	383.7	383.3	383.1	382.8	382.5	382.4	382.4	382.4	382.4	382.4	382.8
175°	386.4	386.2	385.9	385.6	385.4	385.2	385.2	385.2	385.2	385.2	385.6
177.5°	387.5	387.4	387.1	386.9	386.7	386.6	386.6	386.6	386.6	386.6	386.9
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	764.1	765.3	766.5	767.0	766.9	766.7	766.6	766.5
5°	760.1	761.6	763.0	763.6	763.3	763.0	762.8	762.4
7.5°	752.0	753.3	754.7	755.2	755.0	754.8	754.7	754.5
10°	744.6	746.0	747.3	747.8	747.5	747.2	746.9	746.6
12.5°	736.5	737.5	738.5	738.8	738.7	738.5	738.3	738.1
15°	721.9	723.1	724.3	724.4	723.5	722.6	721.8	720.9
17.5°	703.4	704.2	705.1	705.2	705.0	704.6	704.3	704.0
20°	689.7	690.3	690.9	691.0	690.5	690.1	689.7	689.2
22.5°	675.3	675.7	676.2	676.1	675.6	675.0	674.5	673.9
25°	651.3	651.4	651.5	651.4	651.0	650.6	650.1	649.6
27.5°	625.8	625.9	625.9	625.8	625.2	624.7	624.1	623.5
30°	608.1	608.1	608.1	607.6	606.6	605.5	604.5	603.5
32.5°	589.6	588.8	587.9	587.2	586.7	586.2	585.6	585.0
35°	559.5	558.6	557.8	557.0	556.2	555.5	554.7	554.1
37.5°	528.4	527.4	526.3	525.6	525.1	524.6	524.2	523.7
40°	508.2	507.0	505.8	504.9	504.3	503.8	503.2	502.6
42.5°	487.1	485.9	484.7	483.8	483.2	482.7	482.1	481.5
45°	455.6	453.7	452.0	450.7	450.0	449.3	448.6	447.8
47.5°	422.3	420.6	418.9	417.7	417.1	416.4	415.8	415.1
50°	400.5	398.8	397.2	396.0	395.0	394.2	393.3	392.4
52.5°	378.2	376.9	375.5	374.3	373.4	372.6	371.7	370.8
55°	344.3	342.8	341.1	339.9	339.2	338.5	337.8	337.0
57.5°	311.1	309.6	308.2	307.0	306.2	305.4	304.5	303.7
60°	287.6	286.3	284.9	283.9	283.2	282.4	281.7	280.9
62.5°	264.8	263.6	262.3	261.3	260.8	260.4	259.8	259.3
65°	231.1	230.0	228.8	228.0	227.6	227.1	226.7	226.2
67.5°	197.7	196.7	195.6	194.8	194.2	193.6	193.0	192.3
70°	176.0	175.0	174.0	173.1	172.4	171.6	170.9	170.1
72.5°	154.1	153.2	152.3	151.6	151.3	150.8	150.5	150.1
75°	122.5	121.8	121.1	120.5	120.0	119.6	119.2	118.7
77.5°	93.1	92.6	92.0	91.8	91.8	91.8	91.8	91.8
80°	74.2	74.0	74.0	73.9	73.9	73.9	73.9	73.9
82.5°	57.1	56.8	56.6	56.4	56.3	56.1	56.1	56.0
85°	32.4	32.1	31.8	31.7	31.7	31.7	31.7	31.7
87.5°	12.9	12.9	12.8	12.8	12.8	12.8	12.9	12.9
90°	7.8	8.1	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	12.1	12.3	12.6	12.7	12.6	12.5	12.4	12.3
95°	23.1	23.3	23.6	23.8	23.8	23.8	23.8	23.8
97.5°	35.8	36.2	36.5	36.6	36.6	36.6	36.5	36.5
100°	45.1	45.4	45.5	45.7	45.8	46.0	46.1	46.2
102.5°	55.9	56.1	56.2	56.3	56.3	56.3	56.2	56.2
105°	71.8	71.8	71.8	71.9	72.0	72.2	72.3	72.4
107.5°	89.1	89.3	89.5	89.6	89.5	89.5	89.4	89.3
110°	100.7	100.9	101.2	101.3	101.1	101.0	100.8	100.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	112.2	112.5	112.9	113.0	113.0	113.0	112.9	112.9
115°	129.8	129.8	129.9	129.9	129.8	129.8	129.7	129.6
117.5°	147.5	147.5	147.5	147.3	147.1	147.0	146.8	146.6
120°	159.3	159.2	159.2	159.0	158.9	158.8	158.7	158.5
122.5°	171.3	171.1	170.9	170.7	170.6	170.3	170.1	170.0
125°	189.0	188.7	188.5	188.2	188.0	187.7	187.4	187.1
127.5°	206.6	206.2	205.8	205.4	205.2	204.8	204.6	204.2
130°	218.3	217.9	217.7	217.3	216.9	216.4	215.9	215.4
132.5°	229.5	229.2	228.9	228.6	228.2	227.8	227.5	227.1
135°	246.5	246.2	246.0	245.8	245.6	245.5	245.4	245.2
137.5°	263.1	262.9	262.5	262.3	262.0	261.7	261.5	261.2
140°	274.0	274.0	273.9	273.6	273.1	272.7	272.2	271.7
142.5°	284.2	284.1	284.1	283.9	283.5	283.2	282.8	282.4
145°	299.3	299.2	299.1	298.9	298.7	298.4	298.2	297.9
147.5°	313.5	313.5	313.5	313.2	312.9	312.5	312.0	311.6
150°	322.2	322.2	322.2	322.0	321.6	321.2	320.8	320.4
152.5°	330.2	330.4	330.5	330.3	329.9	329.6	329.2	328.9
155°	341.9	342.2	342.5	342.3	341.9	341.4	341.0	340.4
157.5°	352.0	352.3	352.6	352.5	352.1	351.8	351.4	351.0
160°	358.2	358.5	358.9	358.9	358.6	358.3	358.1	357.8
162.5°	364.0	364.4	364.7	364.6	364.2	363.8	363.3	362.9
165°	371.4	371.8	372.2	372.2	371.7	371.3	370.7	370.3
167.5°	377.4	377.8	378.2	378.2	377.8	377.4	376.9	376.6
170°	380.6	381.2	381.6	381.6	381.2	380.6	380.2	379.7
172.5°	383.2	383.7	384.1	384.1	383.6	383.1	382.6	382.2
175°	386.0	386.4	386.8	386.8	386.3	385.8	385.4	384.9
177.5°	387.3	387.5	387.9	387.9	387.5	387.1	386.8	386.3
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4

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