

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: P332244

Luminaire Tested: **S123RDIP-S340D365U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332244  
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: S123RDIP-S340D365U835-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 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: 2545.6 lumens  
Efficiency: N/A  
Efficacy: 125.4 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

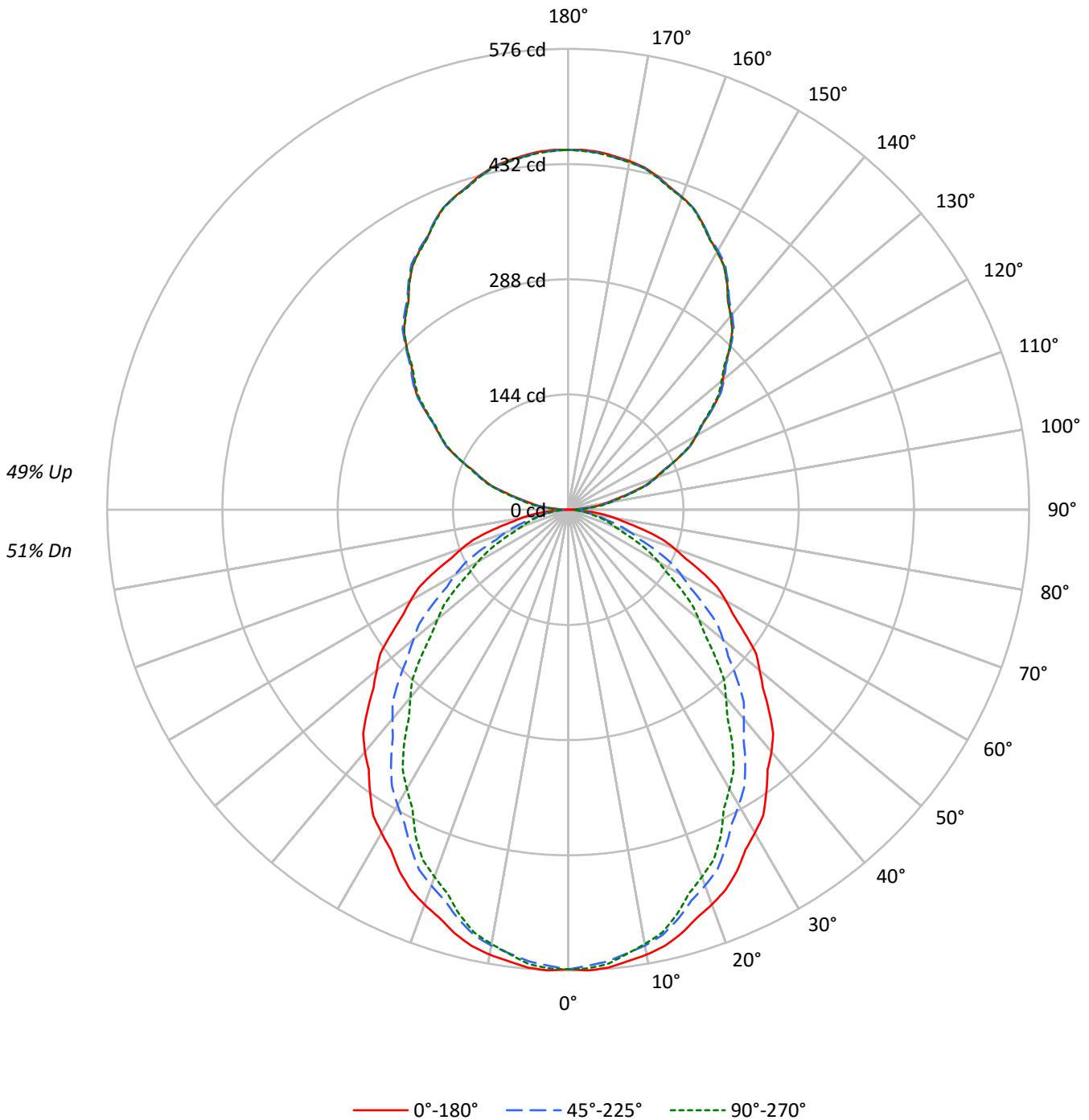
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	87	91	87	84	81	74	72	70	62	60	59	51	50	49	44
2	90	83	77	72	83	77	71	67	65	61	58	55	52	50	45	43	42	37
3	82	73	66	60	76	68	61	56	58	53	49	49	45	42	40	38	36	32
4	75	65	57	51	69	60	53	48	52	46	42	44	40	37	36	33	31	28
5	69	58	50	44	64	54	47	41	46	41	37	39	35	32	33	30	27	24
6	64	52	44	38	59	48	41	36	42	36	32	36	31	28	30	27	24	21
7	59	47	39	34	55	44	37	32	38	32	28	33	28	25	27	24	22	19
8	55	43	35	30	51	40	33	28	35	29	25	30	25	22	25	22	19	17
9	51	39	32	27	47	37	30	25	32	27	23	27	23	20	23	20	18	15
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	22	18	16	14

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6184	6184	6184
5°	6207	6122	6158
10°	6172	6045	6025
15°	6107	5904	5841
20°	6015	5727	5593
25°	5922	5529	5352
30°	5797	5299	5009
35°	5670	5070	4696
40°	5552	4799	4308
45°	5398	4532	3958
50°	5228	4228	3565
55°	5054	3883	3200
60°	4895	3511	2799
65°	4689	3110	2397
70°	4428	2609	1936
75°	4051	2054	1822
80°	3608	1822	1674
85°	3051	1606	1494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.0	2.1
10°-20°	150.1	5.9
20°-30°	216.1	8.5
30°-40°	243.5	9.6
40°-50°	232.9	9.1
50°-60°	190.7	7.5
60°-70°	128.7	5.1
70°-80°	64.7	2.5
80°-90°	18.5	0.7
90°-100°	29.3	1.2
100°-110°	87.7	3.4
110°-120°	149.2	5.9
120°-130°	196.2	7.7
130°-140°	220.6	8.7
140°-150°	216.8	8.5
150°-160°	182.5	7.2
160°-170°	121.5	4.8
170°-180°	42.5	1.7
0°-30°	420.2	16.5
0°-40°	663.7	26.1
0°-60°	1087.3	42.7
0°-90°	1299.2	51.0
90°-120°	266.2	10.5
90°-150°	899.9	35.3
90°-180°	1246.0	48.9
0°-180°	2545.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	574	572	567	570	570	54
15°	548	542	530	527	524	154
25°	499	486	466	456	451	229
35°	432	414	386	366	357	270
45°	355	333	298	272	260	273
55°	269	246	207	181	170	241
65°	184	158	122	100	94	182
75°	97	75	49	45	44	104
85°	25	15	13	12	12	28
90°	0	4	8	10	11	3
95°	21	23	26	28	28	23
105°	80	80	83	83	84	85
115°	150	151	150	151	150	149
125°	220	221	220	219	217	196
135°	285	287	287	286	285	220
145°	346	347	348	347	346	216
155°	396	396	396	398	395	182
165°	432	430	430	432	430	122
175°	449	448	447	449	447	43
180°	450	450	450	450	450	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	576.4	576.0	575.7	575.4	575.1	574.4	573.4	572.4	571.4	570.4	571.3
5°	574.5	574.0	573.5	573.0	572.4	571.6	570.3	569.1	567.8	566.6	567.5
7.5°	569.2	568.6	568.1	567.5	567.0	565.9	564.3	562.7	561.0	559.4	559.9
10°	564.7	564.0	563.3	562.6	561.8	560.5	558.7	556.8	554.9	553.1	553.2
12.5°	558.4	557.6	556.8	556.0	555.2	553.6	551.3	549.1	546.8	544.5	544.4
15°	548.0	546.8	545.7	544.5	543.4	541.4	538.5	535.6	532.7	529.8	529.3
17.5°	534.8	533.5	532.2	530.8	529.5	527.0	523.3	519.6	516.0	512.3	511.2
20°	525.1	523.5	521.8	520.2	518.5	515.7	511.8	507.8	503.9	500.0	498.6
22.5°	514.3	512.4	510.5	508.6	506.7	503.7	499.5	495.3	491.1	486.9	485.2
25°	498.6	496.0	493.4	490.8	488.2	484.5	479.8	475.0	470.2	465.5	463.3
27.5°	479.5	476.6	473.7	470.9	468.0	464.0	458.7	453.3	448.0	442.7	439.7
30°	466.4	463.3	460.2	457.1	454.0	449.5	443.7	437.9	432.1	426.3	422.8
32.5°	453.4	449.8	446.3	442.8	439.3	434.5	428.3	422.2	416.1	409.9	406.1
35°	431.5	427.7	424.0	420.3	416.6	411.5	405.1	398.6	392.2	385.8	381.4
37.5°	409.3	405.1	401.0	396.9	392.7	387.2	380.4	373.5	366.7	359.8	354.8
40°	395.1	390.6	386.0	381.5	376.9	370.9	363.6	356.2	348.9	341.5	336.2
42.5°	379.1	374.5	370.0	365.4	360.9	354.8	347.2	339.6	332.0	324.4	318.5
45°	354.6	349.9	345.3	340.6	335.9	329.6	321.7	313.7	305.7	297.7	291.8
47.5°	330.1	325.0	319.8	314.7	309.6	303.1	295.1	287.1	279.2	271.2	264.8
50°	312.2	307.3	302.5	297.6	292.7	286.1	277.7	269.3	260.9	252.5	246.1
52.5°	296.2	290.9	285.6	280.3	275.0	268.2	259.9	251.6	243.3	235.0	228.4
55°	269.3	264.2	259.2	254.1	249.0	242.1	233.3	224.5	215.7	206.9	200.9
57.5°	244.5	239.0	233.5	227.9	222.4	215.2	206.4	197.5	188.7	179.9	174.2
60°	227.4	221.7	216.0	210.3	204.6	197.5	188.9	180.3	171.7	163.1	157.5
62.5°	210.2	204.5	198.8	193.2	187.5	180.3	171.7	163.1	154.5	145.9	140.7
65°	184.1	178.4	172.7	167.0	161.3	154.4	146.3	138.2	130.2	122.1	117.0
67.5°	157.9	152.1	146.3	140.6	134.8	128.1	120.3	112.6	104.8	97.1	93.3
70°	140.7	135.1	129.5	123.9	118.4	111.9	104.7	97.4	90.2	82.9	79.3
72.5°	123.6	118.1	112.6	107.0	101.5	95.5	88.9	82.3	75.7	69.1	66.2
75°	97.4	92.4	87.4	82.5	77.5	72.2	66.5	60.8	55.1	49.4	48.4
77.5°	73.5	69.0	64.5	60.0	55.6	51.5	47.8	44.1	40.5	36.8	36.3
80°	58.2	54.0	49.8	45.5	41.3	38.1	35.9	33.7	31.5	29.4	29.0
82.5°	43.7	40.0	36.4	32.7	29.0	26.7	25.7	24.7	23.7	22.6	22.3
85°	24.7	22.4	20.1	17.9	15.6	14.3	14.0	13.7	13.4	13.0	12.8
87.5°	9.0	8.3	7.5	6.8	6.0	5.7	5.9	6.1	6.3	6.5	6.5
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.4	6.4	7.5	8.5	8.8
92.5°	8.6	9.1	9.6	10.2	10.7	11.2	11.8	12.4	13.0	13.6	13.8
95°	20.9	21.4	21.9	22.5	23.0	23.6	24.3	24.9	25.5	26.2	26.5
97.5°	37.0	37.4	37.9	38.3	38.7	39.1	39.6	40.0	40.5	40.9	41.3
100°	48.1	48.5	49.0	49.5	49.9	50.4	50.8	51.2	51.6	51.9	52.2
102.5°	60.8	61.1	61.3	61.6	61.9	62.3	62.8	63.4	63.9	64.4	64.6
105°	79.5	79.7	79.8	80.0	80.1	80.6	81.3	82.0	82.7	83.4	83.4
107.5°	101.3	101.4	101.5	101.6	101.7	101.8	102.1	102.4	102.7	103.0	103.2
110°	114.9	115.0	115.2	115.3	115.5	115.6	115.8	116.0	116.1	116.3	116.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	129.0	129.1	129.2	129.3	129.4	129.4	129.5	129.5	129.5	129.6	129.9
115°	150.2	150.4	150.7	150.9	151.1	151.2	151.0	150.9	150.7	150.5	150.6
117.5°	171.5	171.7	171.9	172.0	172.2	172.1	171.9	171.7	171.5	171.3	171.3
120°	184.8	185.3	185.8	186.2	186.7	186.7	186.4	186.0	185.6	185.2	185.1
122.5°	198.7	199.0	199.4	199.7	200.1	200.1	199.9	199.7	199.5	199.3	199.1
125°	219.8	220.0	220.3	220.5	220.8	220.8	220.6	220.5	220.3	220.2	219.8
127.5°	239.3	239.8	240.3	240.8	241.3	241.5	241.3	241.1	241.0	240.8	240.4
130°	252.3	252.9	253.6	254.2	254.8	255.0	254.8	254.6	254.3	254.1	253.8
132.5°	265.3	266.0	266.6	267.2	267.8	268.1	267.9	267.7	267.5	267.4	267.0
135°	285.2	285.7	286.1	286.6	287.1	287.3	287.2	287.1	287.0	287.0	286.6
137.5°	303.6	304.0	304.3	304.7	305.1	305.4	305.6	305.8	306.0	306.2	305.9
140°	316.3	316.7	317.1	317.5	317.9	318.1	318.2	318.2	318.3	318.4	318.3
142.5°	327.9	328.3	328.7	329.1	329.4	329.7	329.9	330.0	330.1	330.3	330.2
145°	346.0	346.1	346.3	346.4	346.6	346.8	347.0	347.3	347.5	347.7	347.7
147.5°	361.8	362.1	362.4	362.7	362.9	363.2	363.4	363.6	363.8	364.1	364.1
150°	372.8	373.0	373.1	373.3	373.5	373.6	373.8	373.9	374.1	374.2	374.2
152.5°	381.9	382.1	382.3	382.5	382.8	382.9	383.0	383.1	383.2	383.3	383.4
155°	396.2	396.2	396.2	396.2	396.2	396.2	396.3	396.3	396.4	396.5	396.8
157.5°	408.3	408.2	408.1	408.0	407.9	407.9	408.0	408.0	408.1	408.2	408.5
160°	415.9	415.8	415.6	415.5	415.3	415.2	415.2	415.2	415.2	415.2	415.6
162.5°	422.7	422.5	422.3	422.1	421.8	421.8	421.8	421.9	422.0	422.0	422.4
165°	431.5	431.3	431.0	430.8	430.5	430.4	430.4	430.4	430.4	430.4	430.9
167.5°	438.5	438.2	437.9	437.5	437.2	437.1	437.2	437.2	437.3	437.4	437.8
170°	442.4	442.1	441.8	441.5	441.2	441.0	441.0	441.0	441.0	441.0	441.6
172.5°	445.6	445.2	444.9	444.6	444.3	444.1	444.1	444.1	444.1	444.1	444.6
175°	448.8	448.5	448.2	447.9	447.6	447.4	447.4	447.4	447.4	447.4	447.9
177.5°	450.1	449.9	449.6	449.4	449.1	449.0	449.0	449.0	449.0	449.0	449.4
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5
2.5°	572.2	573.1	574.1	574.4	574.3	574.1	573.9	573.8
5°	568.5	569.4	570.3	570.7	570.5	570.3	570.1	569.9
7.5°	560.5	561.0	561.5	561.6	561.2	560.9	560.5	560.2
10°	553.3	553.4	553.5	553.3	552.8	552.3	551.7	551.2
12.5°	544.4	544.3	544.3	543.9	543.3	542.7	542.1	541.5
15°	528.7	528.2	527.7	527.1	526.4	525.6	524.9	524.2
17.5°	510.1	509.0	507.9	506.8	505.7	504.6	503.6	502.5
20°	497.3	495.9	494.6	493.3	492.0	490.8	489.6	488.3
22.5°	483.6	481.9	480.2	478.8	477.6	476.5	475.3	474.2
25°	461.1	459.0	456.8	455.1	454.0	452.9	451.7	450.6
27.5°	436.7	433.7	430.7	428.3	426.5	424.8	423.1	421.3
30°	419.3	415.8	412.3	409.7	408.0	406.4	404.7	403.0
32.5°	402.2	398.4	394.5	391.7	390.0	388.3	386.5	384.8
35°	376.9	372.4	368.0	364.8	363.0	361.1	359.2	357.4
37.5°	349.7	344.6	339.6	335.9	333.6	331.3	329.0	326.7
40°	330.8	325.4	320.0	316.1	313.7	311.4	309.0	306.6
42.5°	312.6	306.8	300.9	296.9	294.7	292.6	290.5	288.3
45°	285.9	280.0	274.1	269.9	267.5	265.0	262.5	260.0
47.5°	258.3	251.9	245.5	241.2	239.0	236.8	234.5	232.3
50°	239.7	233.3	226.9	222.5	220.1	217.7	215.3	212.9
52.5°	221.7	215.0	208.4	204.0	201.8	199.7	197.6	195.4
55°	194.9	188.9	182.9	178.8	176.8	174.7	172.6	170.5
57.5°	168.5	162.8	157.2	153.4	151.7	149.9	148.2	146.4
60°	151.9	146.3	140.7	137.0	135.3	133.5	131.8	130.0
62.5°	135.4	130.2	124.9	121.3	119.5	117.7	115.8	114.0
65°	111.9	106.9	101.8	98.7	97.5	96.4	95.3	94.1
67.5°	89.5	85.7	81.9	79.4	78.2	77.0	75.8	74.6
70°	75.7	72.1	68.4	66.1	64.9	63.8	62.6	61.5
72.5°	63.2	60.3	57.3	55.6	55.1	54.6	54.2	53.7
75°	47.3	46.3	45.2	44.6	44.4	44.2	44.0	43.8
77.5°	35.7	35.1	34.6	34.2	34.0	33.8	33.6	33.4
80°	28.7	28.4	28.1	27.9	27.6	27.4	27.2	27.0
82.5°	22.0	21.7	21.4	21.2	21.2	21.1	21.1	21.1
85°	12.6	12.4	12.2	12.1	12.1	12.1	12.1	12.1
87.5°	6.5	6.5	6.5	6.4	6.4	6.3	6.3	6.2
90°	9.1	9.4	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	14.1	14.3	14.6	14.7	14.6	14.5	14.4	14.3
95°	26.8	27.1	27.4	27.6	27.6	27.6	27.6	27.6
97.5°	41.6	42.0	42.4	42.5	42.5	42.5	42.4	42.4
100°	52.4	52.7	52.9	53.1	53.2	53.4	53.6	53.7
102.5°	64.9	65.1	65.3	65.4	65.4	65.4	65.3	65.3
105°	83.4	83.4	83.4	83.5	83.6	83.8	84.0	84.1
107.5°	103.5	103.7	104.0	104.1	104.0	103.9	103.8	103.7
110°	116.9	117.2	117.5	117.6	117.4	117.3	117.1	117.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	130.3	130.7	131.1	131.2	131.2	131.2	131.1	131.1
115°	150.7	150.8	150.9	150.9	150.8	150.7	150.6	150.5
117.5°	171.3	171.3	171.3	171.1	170.9	170.7	170.5	170.3
120°	185.0	184.9	184.9	184.7	184.6	184.4	184.3	184.1
122.5°	198.9	198.7	198.5	198.3	198.1	197.8	197.6	197.4
125°	219.5	219.2	218.9	218.6	218.3	218.0	217.6	217.3
127.5°	239.9	239.5	239.0	238.6	238.3	237.9	237.6	237.2
130°	253.5	253.1	252.8	252.4	251.9	251.3	250.8	250.2
132.5°	266.6	266.2	265.9	265.5	265.0	264.6	264.2	263.8
135°	286.3	286.0	285.7	285.5	285.3	285.1	285.0	284.8
137.5°	305.6	305.3	304.9	304.6	304.3	304.0	303.7	303.4
140°	318.2	318.2	318.1	317.8	317.2	316.7	316.1	315.6
142.5°	330.1	330.0	330.0	329.7	329.3	328.9	328.4	328.0
145°	347.6	347.5	347.4	347.2	346.9	346.6	346.3	346.0
147.5°	364.1	364.1	364.1	363.8	363.4	362.9	362.4	361.9
150°	374.2	374.2	374.2	374.0	373.5	373.1	372.6	372.1
152.5°	383.5	383.7	383.8	383.6	383.2	382.8	382.4	382.0
155°	397.1	397.4	397.8	397.6	397.1	396.5	396.0	395.4
157.5°	408.8	409.2	409.5	409.4	409.0	408.6	408.1	407.7
160°	416.0	416.4	416.8	416.8	416.5	416.2	415.9	415.6
162.5°	422.8	423.2	423.6	423.5	423.0	422.5	422.0	421.5
165°	431.4	431.8	432.3	432.3	431.7	431.2	430.6	430.1
167.5°	438.3	438.8	439.3	439.3	438.8	438.3	437.8	437.4
170°	442.1	442.7	443.2	443.2	442.7	442.1	441.6	441.0
172.5°	445.1	445.6	446.1	446.1	445.5	445.0	444.4	443.9
175°	448.3	448.8	449.3	449.2	448.7	448.1	447.6	447.0
177.5°	449.8	450.1	450.5	450.5	450.1	449.6	449.2	448.7
180°	449.9	449.9	449.9	449.9	449.9	449.9	449.9	449.9

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