

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: P331291

Luminaire Tested: **SA2XXDIP-C485D330U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331291  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C485D330U835-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

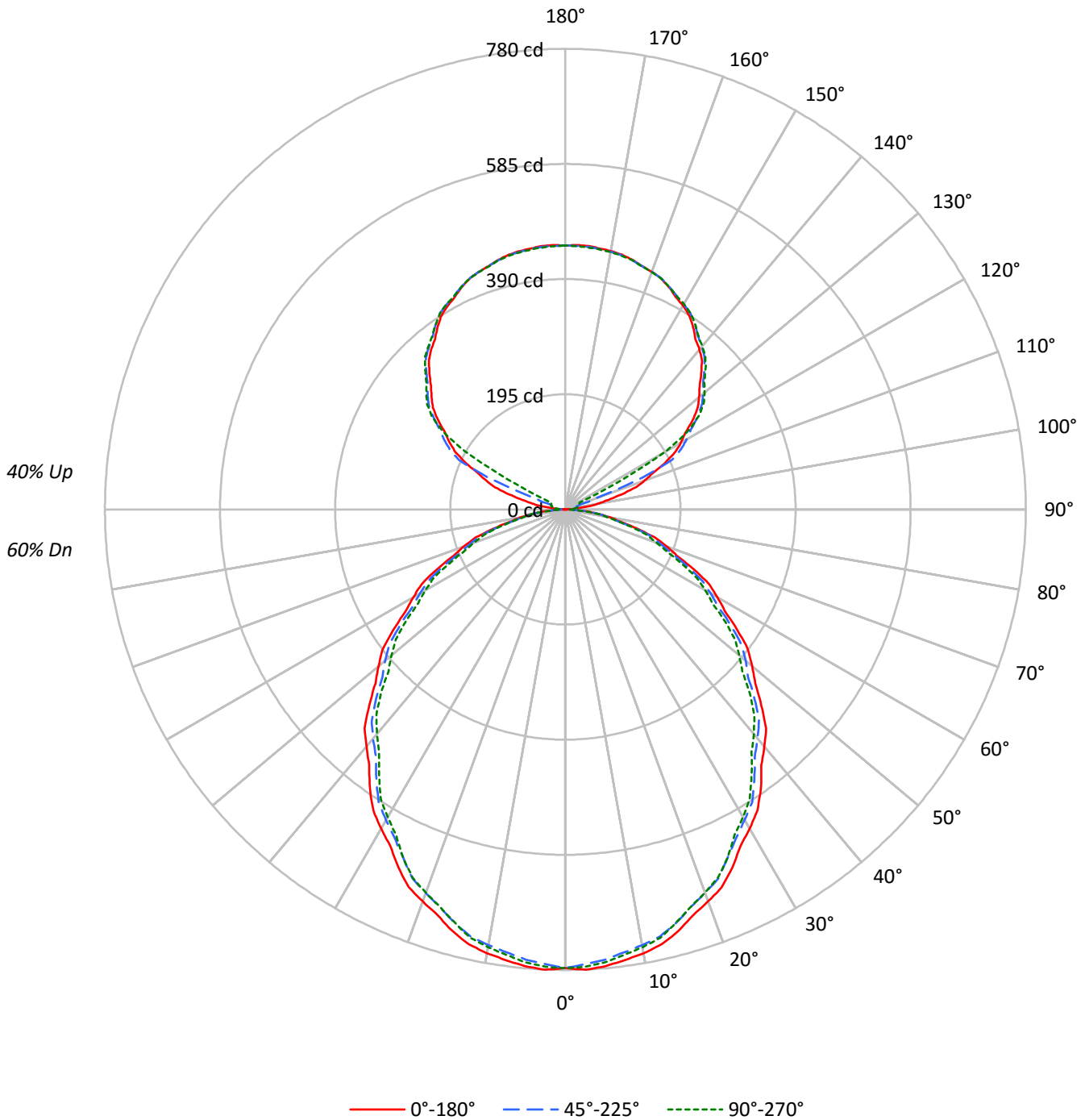
Lumens per Lamp: N/A  
Luminaire Lumens: 3286.6 lumens  
Efficiency: N/A  
Efficacy: 119.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60
1	100	96	92	88	93	90	86	83	78	76	73	68	66	64	58	57	55	51
2	91	84	77	72	85	78	73	68	68	64	61	59	56	53	51	49	47	42
3	83	73	66	60	77	69	62	57	60	55	51	52	49	45	45	42	40	36
4	76	65	57	51	71	61	54	48	54	48	44	47	42	39	40	37	34	31
5	70	58	50	44	65	55	47	42	48	42	38	42	37	34	36	33	30	27
6	64	52	44	38	60	49	42	36	43	37	33	38	33	30	33	29	26	24
7	60	47	39	33	56	44	37	32	39	33	29	35	30	26	30	26	23	21
8	55	43	35	30	52	41	33	28	36	30	26	32	27	23	28	24	21	19
9	52	39	32	26	48	37	30	25	33	27	23	29	24	21	26	22	19	17
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	24	20	17	15

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

	0°	45°	90°
0°	12540	12540	12540
5°	12588	12407	12480
10°	12514	12281	12342
15°	12359	12122	12109
20°	12139	11883	11869
25°	11922	11589	11589
30°	11641	11320	11222
35°	11379	10996	10835
40°	11051	10673	10467
45°	10727	10351	10095
50°	10374	10017	9661
55°	10007	9627	9272
60°	9597	9164	8825
65°	9158	8703	8302
70°	8601	8143	7756
75°	7829	7498	7317
80°	6946	6732	6388
85°	5669	5391	4835



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.0	2.2
10°-20°	205.5	6.3
20°-30°	302.1	9.2
30°-40°	350.9	10.7
40°-50°	350.5	10.7
50°-60°	305.6	9.3
60°-70°	226.0	6.9
70°-80°	128.0	3.9
80°-90°	35.5	1.1
90°-100°	14.9	0.5
100°-110°	54.7	1.7
110°-120°	146.1	4.4
120°-130°	241.2	7.3
130°-140°	256.5	7.8
140°-150°	238.4	7.3
150°-160°	191.7	5.8
160°-170°	123.5	3.8
170°-180°	42.5	1.3
0°-30°	580.6	17.7
0°-40°	931.5	28.3
0°-60°	1587.6	48.3
0°-90°	1977.1	60.2
90°-120°	215.7	6.6
90°-150°	951.8	29.0
90°-180°	1309.0	39.8
0°-180°	3286.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	777	777	777	777	777	
5°	777	773	766	771	770	74
15°	739	735	725	728	724	208
25°	669	663	650	652	650	308
35°	577	570	558	553	550	360
45°	470	464	453	445	442	362
55°	356	351	342	333	329	318
65°	240	235	228	221	217	237
75°	126	124	120	116	117	134
85°	31	30	29	27	26	35
90°	0	4	6	8	9	2
95°	21	11	13	14	14	26
105°	98	103	20	23	25	105
115°	186	192	200	57	26	183
125°	263	267	273	275	276	234
135°	325	330	333	336	336	251
145°	377	377	382	385	383	236
155°	416	413	416	418	416	191
165°	438	436	437	439	437	124
175°	448	446	446	448	445	43
180°	447	447	447	447	447	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	776.7	776.7	776.7	776.7	776.7	776.7	776.7	776.7	776.7	776.7	776.7
2.5°	780.3	779.6	779.0	778.3	777.6	776.6	775.1	773.7	772.2	770.7	772.1
5°	776.7	776.0	775.4	774.7	774.1	772.8	771.0	769.2	767.3	765.5	766.8
7.5°	769.8	768.8	767.8	766.7	765.7	764.3	762.4	760.6	758.7	756.8	758.2
10°	763.3	762.1	760.9	759.8	758.6	757.0	755.0	753.1	751.1	749.1	750.4
12.5°	754.3	753.3	752.2	751.2	750.2	748.7	746.7	744.7	742.7	740.7	741.6
15°	739.4	738.4	737.4	736.4	735.4	733.8	731.6	729.5	727.3	725.2	725.8
17.5°	720.2	719.3	718.3	717.3	716.3	714.7	712.5	710.3	708.1	705.9	706.7
20°	706.5	705.5	704.5	703.5	702.5	700.9	698.5	696.2	693.9	691.6	692.1
22.5°	692.8	691.4	690.0	688.6	687.2	685.4	683.2	681.0	678.8	676.6	676.7
25°	669.2	667.8	666.5	665.2	663.9	661.8	659.0	656.1	653.3	650.5	650.8
27.5°	642.3	641.1	639.9	638.7	637.5	635.8	633.6	631.3	629.1	626.9	626.4
30°	624.4	623.0	621.7	620.4	619.0	617.1	614.6	612.2	609.7	607.2	606.7
32.5°	605.2	604.2	603.1	602.0	601.0	599.1	596.5	593.9	591.3	588.7	587.8
35°	577.3	575.6	574.0	572.3	570.7	568.5	565.9	563.2	560.5	557.9	556.9
37.5°	545.8	544.3	542.9	541.4	539.9	537.9	535.2	532.6	529.9	527.3	526.0
40°	524.3	522.9	521.6	520.3	519.0	517.0	514.3	511.7	509.0	506.4	504.9
42.5°	503.4	502.0	500.7	499.4	498.1	496.1	493.4	490.8	488.1	485.4	483.8
45°	469.8	468.6	467.4	466.3	465.1	463.3	460.8	458.3	455.8	453.3	451.5
47.5°	436.3	435.2	434.1	433.0	431.9	430.1	427.5	424.9	422.3	419.7	417.8
50°	413.0	412.2	411.3	410.5	409.7	408.1	405.8	403.5	401.1	398.8	396.5
52.5°	390.3	389.2	388.1	387.0	385.9	384.3	382.1	379.9	377.7	375.5	373.6
55°	355.5	354.5	353.5	352.5	351.5	350.0	348.0	346.0	344.0	342.0	340.1
57.5°	320.5	319.7	318.9	318.2	317.4	315.9	313.7	311.5	309.3	307.1	305.1
60°	297.2	296.6	295.9	295.2	294.6	293.1	290.8	288.4	286.1	283.8	282.0
62.5°	274.5	273.5	272.4	271.3	270.3	268.9	267.1	265.3	263.5	261.7	260.0
65°	239.7	238.7	237.7	236.7	235.8	234.4	232.8	231.1	229.4	227.8	226.3
67.5°	204.3	203.5	202.7	201.9	201.1	200.0	198.5	197.0	195.5	194.0	192.9
70°	182.2	181.6	180.9	180.2	179.6	178.5	177.0	175.5	174.0	172.5	171.4
72.5°	159.5	158.9	158.2	157.5	156.9	156.1	155.1	154.1	153.2	152.2	151.0
75°	125.5	125.1	124.8	124.5	124.1	123.6	122.7	121.9	121.1	120.2	119.2
77.5°	95.0	94.4	93.9	93.3	92.7	92.3	92.0	91.6	91.3	91.0	90.5
80°	74.7	74.5	74.4	74.2	74.0	73.8	73.4	73.1	72.8	72.4	71.9
82.5°	55.6	55.5	55.5	55.5	55.4	55.3	55.1	54.9	54.7	54.5	53.9
85°	30.6	30.5	30.3	30.1	30.0	29.8	29.6	29.5	29.3	29.1	28.6
87.5°	10.8	10.7	10.6	10.5	10.4	10.3	10.1	10.0	9.8	9.7	9.3
90°	0.3	1.1	1.9	2.7	3.5	4.2	4.7	5.3	5.9	6.5	6.8
92.5°	6.5	6.5	6.4	6.3	6.2	6.4	6.6	6.9	7.2	7.5	7.7
95°	21.0	18.6	16.3	13.9	11.5	10.6	11.1	11.6	12.1	12.6	13.0
97.5°	41.7	35.0	28.3	21.7	15.0	12.2	13.4	14.5	15.7	16.9	17.2
100°	57.2	47.4	37.5	27.7	17.9	13.5	14.8	16.0	17.2	18.4	19.0
102.5°	74.3	72.2	70.1	68.1	66.0	59.8	49.6	39.4	29.2	18.9	19.7
105°	98.3	100.4	102.6	104.8	106.9	98.2	78.6	59.0	39.3	19.7	20.5
107.5°	125.6	127.4	129.1	130.9	132.6	121.7	98.2	74.7	51.1	27.6	26.8
110°	143.2	144.7	146.3	147.8	149.3	139.6	118.9	98.1	77.3	56.6	49.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	159.8	161.1	162.5	163.8	165.1	163.2	158.1	153.0	147.8	142.7	116.5
115°	185.9	187.1	188.4	189.6	190.8	192.3	194.1	195.9	197.7	199.5	166.2
117.5°	209.3	210.6	212.0	213.4	214.7	216.0	217.3	218.5	219.7	221.0	212.9
120°	226.3	227.4	228.5	229.6	230.6	231.8	233.1	234.4	235.7	237.0	237.9
122.5°	240.8	242.0	243.1	244.2	245.4	246.6	248.0	249.4	250.9	252.3	252.8
125°	262.9	263.8	264.7	265.7	266.6	267.8	269.1	270.5	271.8	273.2	273.7
127.5°	282.8	283.9	284.9	286.0	287.0	288.0	289.0	290.1	291.1	292.1	292.8
130°	295.5	296.7	297.8	299.0	300.1	301.1	301.9	302.7	303.5	304.3	305.0
132.5°	308.5	309.4	310.4	311.4	312.4	313.2	314.0	314.8	315.6	316.4	317.1
135°	325.3	326.4	327.6	328.7	329.9	330.8	331.4	332.1	332.7	333.4	334.1
137.5°	342.3	343.1	343.9	344.7	345.5	346.3	347.0	347.7	348.5	349.2	349.9
140°	353.4	354.0	354.5	355.1	355.7	356.4	357.2	358.0	358.8	359.5	360.2
142.5°	362.7	363.2	363.7	364.3	364.8	365.5	366.4	367.3	368.2	369.1	369.7
145°	377.3	377.3	377.2	377.1	377.0	377.6	378.8	380.1	381.3	382.5	383.0
147.5°	390.1	389.8	389.5	389.2	389.0	389.4	390.6	391.9	393.1	394.3	394.6
150°	398.3	397.8	397.3	396.8	396.3	396.7	397.8	399.0	400.1	401.3	401.7
152.5°	405.3	404.8	404.2	403.6	403.1	403.3	404.4	405.5	406.6	407.7	408.1
155°	415.5	414.8	414.2	413.5	412.9	413.0	413.9	414.7	415.6	416.4	416.9
157.5°	423.4	422.9	422.3	421.8	421.2	421.3	421.9	422.5	423.1	423.7	424.2
160°	428.1	427.7	427.2	426.8	426.4	426.4	426.8	427.2	427.7	428.1	428.5
162.5°	432.2	431.8	431.4	430.9	430.5	430.5	430.8	431.2	431.6	432.0	432.5
165°	437.8	437.4	436.9	436.5	436.1	436.0	436.2	436.4	436.6	436.8	437.3
167.5°	441.9	441.5	441.1	440.6	440.2	440.1	440.3	440.5	440.7	440.9	441.4
170°	444.3	443.8	443.4	443.0	442.5	442.4	442.5	442.7	442.8	443.0	443.5
172.5°	445.8	445.4	444.9	444.5	444.1	443.9	444.1	444.2	444.4	444.5	445.0
175°	447.8	447.3	446.8	446.3	445.8	445.6	445.8	445.9	446.1	446.2	446.7
177.5°	448.1	447.7	447.3	446.9	446.5	446.4	446.4	446.5	446.5	446.6	447.0
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	776.7	776.7	776.7	776.7	776.7	776.7	776.7	776.7
2.5°	773.4	774.7	776.0	776.6	776.3	776.0	775.8	775.5
5°	768.2	769.5	770.8	771.3	771.0	770.6	770.3	770.0
7.5°	759.5	760.8	762.2	762.6	762.3	761.9	761.5	761.2
10°	751.7	753.1	754.4	754.8	754.3	753.8	753.3	752.8
12.5°	742.6	743.5	744.4	744.7	744.3	744.0	743.6	743.2
15°	726.5	727.2	727.8	727.7	726.9	726.1	725.3	724.4
17.5°	707.4	708.2	709.0	708.9	708.1	707.4	706.6	705.8
20°	692.6	693.1	693.6	693.5	692.8	692.1	691.5	690.8
22.5°	676.8	676.9	677.0	676.9	676.5	676.1	675.7	675.3
25°	651.2	651.5	651.8	651.8	651.5	651.2	650.8	650.5
27.5°	625.9	625.4	624.9	624.3	623.5	622.7	621.9	621.1
30°	606.2	605.7	605.2	604.6	603.9	603.3	602.6	601.9
32.5°	586.9	586.0	585.1	584.3	583.6	583.0	582.3	581.6
35°	555.9	554.9	553.9	553.0	552.2	551.3	550.5	549.7
37.5°	524.8	523.6	522.4	521.3	520.5	519.7	518.9	518.2
40°	503.4	501.9	500.4	499.3	498.6	498.0	497.3	496.6
42.5°	482.2	480.6	478.9	477.7	476.7	475.8	474.9	473.9
45°	449.7	447.9	446.0	444.8	444.1	443.5	442.8	442.1
47.5°	415.9	413.9	412.0	410.6	409.6	408.7	407.7	406.7
50°	394.2	391.8	389.5	387.9	387.1	386.3	385.4	384.6
52.5°	371.7	369.7	367.8	366.3	365.2	364.1	363.0	361.9
55°	338.1	336.1	334.1	332.7	331.8	331.0	330.2	329.4
57.5°	303.2	301.2	299.3	298.0	297.3	296.7	296.1	295.4
60°	280.1	278.3	276.5	275.3	274.8	274.3	273.8	273.3
62.5°	258.3	256.6	254.9	253.8	253.1	252.5	251.9	251.2
65°	224.8	223.3	221.8	220.6	219.8	219.0	218.2	217.3
67.5°	191.7	190.5	189.4	188.5	187.8	187.1	186.5	185.8
70°	170.2	169.0	167.9	167.0	166.3	165.6	165.0	164.3
72.5°	149.9	148.7	147.6	146.7	146.2	145.6	145.1	144.6
75°	118.2	117.3	116.3	115.9	116.3	116.6	116.9	117.3
77.5°	90.0	89.5	89.0	88.5	88.0	87.6	87.1	86.6
80°	71.4	70.9	70.5	70.0	69.7	69.4	69.0	68.7
82.5°	53.3	52.6	52.0	51.6	51.6	51.5	51.4	51.4
85°	28.1	27.6	27.1	26.8	26.6	26.5	26.3	26.1
87.5°	9.0	8.7	8.4	8.1	8.0	7.9	7.8	7.7
90°	7.2	7.5	7.9	8.2	8.3	8.4	8.6	8.7
92.5°	7.9	8.1	8.2	8.4	8.5	8.6	8.6	8.7
95°	13.3	13.7	14.0	14.2	14.1	14.0	14.0	13.9
97.5°	17.5	17.7	18.0	18.2	18.3	18.4	18.5	18.6
100°	19.6	20.2	20.7	21.1	21.2	21.4	21.5	21.7
102.5°	20.4	21.2	21.9	22.4	22.6	22.8	23.0	23.2
105°	21.3	22.1	22.9	23.4	23.7	24.0	24.3	24.6
107.5°	26.0	25.2	24.4	24.1	24.4	24.7	25.0	25.3
110°	42.2	35.0	27.8	24.4	24.7	25.0	25.3	25.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	90.3	64.1	37.9	24.9	25.1	25.3	25.6	25.8
115°	133.0	99.7	66.4	47.2	42.0	36.9	31.7	26.5
117.5°	204.9	196.8	188.8	176.3	159.3	142.3	125.3	108.3
120°	238.7	239.6	240.4	236.0	226.3	216.6	206.9	197.2
122.5°	253.3	253.8	254.3	253.6	251.8	249.9	248.0	246.1
125°	274.2	274.7	275.2	275.6	275.8	276.0	276.2	276.4
127.5°	293.6	294.3	295.0	295.4	295.5	295.5	295.5	295.6
130°	305.8	306.6	307.4	307.8	307.7	307.6	307.6	307.5
132.5°	317.8	318.4	319.1	319.4	319.3	319.3	319.2	319.1
135°	334.8	335.5	336.2	336.5	336.4	336.2	336.1	335.9
137.5°	350.6	351.3	352.0	352.2	352.0	351.8	351.5	351.3
140°	360.8	361.5	362.1	362.3	361.9	361.6	361.2	360.8
142.5°	370.3	370.9	371.5	371.6	371.2	370.9	370.5	370.1
145°	383.5	384.0	384.5	384.6	384.2	383.9	383.5	383.1
147.5°	395.0	395.4	395.8	395.8	395.5	395.2	394.9	394.6
150°	402.1	402.5	403.0	403.0	402.7	402.3	401.9	401.6
152.5°	408.6	409.0	409.4	409.4	408.9	408.5	408.0	407.5
155°	417.3	417.7	418.2	418.1	417.5	417.0	416.4	415.8
157.5°	424.7	425.2	425.6	425.6	425.0	424.5	423.9	423.4
160°	429.0	429.4	429.8	429.8	429.3	428.8	428.3	427.8
162.5°	432.9	433.4	433.9	433.9	433.2	432.6	432.0	431.4
165°	437.8	438.3	438.8	438.8	438.3	437.8	437.3	436.8
167.5°	441.9	442.4	442.9	442.8	442.2	441.5	440.9	440.2
170°	444.0	444.5	445.0	444.9	444.3	443.6	443.0	442.3
172.5°	445.5	446.0	446.5	446.5	445.8	445.2	444.5	443.9
175°	447.2	447.7	448.2	448.1	447.4	446.7	445.9	445.2
177.5°	447.4	447.8	448.2	448.1	447.6	447.1	446.6	446.1
180°	446.8	446.8	446.8	446.8	446.8	446.8	446.8	446.8

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