

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: P331674-830

Luminaire Tested: **SA2XXRDIP-C485D1080U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331674-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D1080U830-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5566.9 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

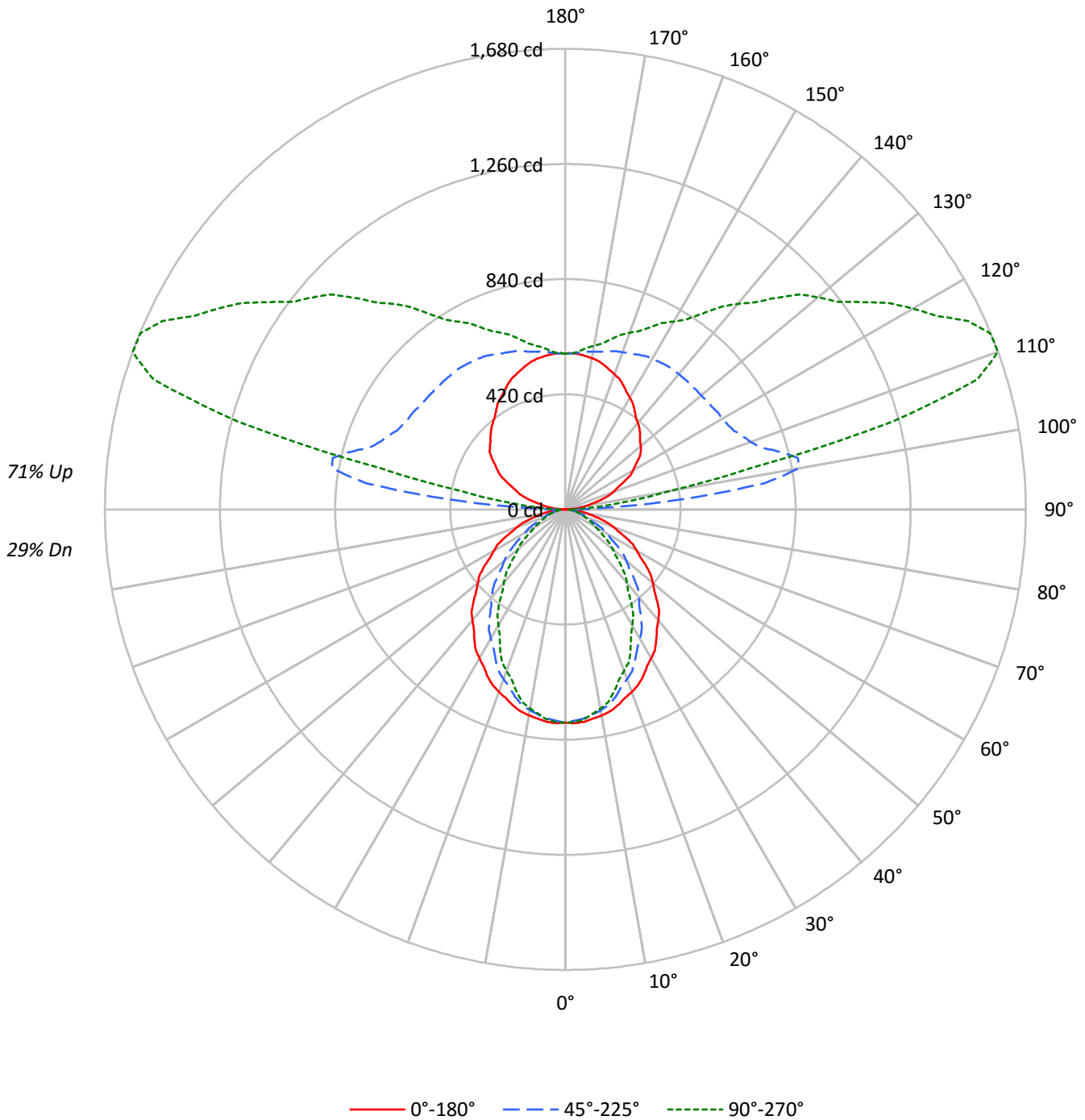
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	102	102	102	102	91	91	91	91	72	72	72	53	53	53	37	37	37	29				
1	93	89	86	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25				
2	85	78	72	68	76	70	65	61	55	52	49	42	40	38	29	28	27	21				
3	78	69	62	56	69	62	56	51	49	45	42	37	34	32	26	24	23	18				
4	71	61	54	48	64	55	49	44	44	39	36	33	30	28	23	22	20	16				
5	65	54	47	41	58	49	43	38	39	34	31	30	27	24	21	19	18	14				
6	60	49	41	36	54	44	37	33	35	30	27	27	24	21	19	17	16	12				
7	56	44	36	31	50	40	33	29	32	27	24	25	21	19	18	16	14	11				
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	16	14	13	10				
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9				
10	45	33	26	22	40	30	24	20	24	20	17	19	16	14	14	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12558	12558	12558
5°	12606	12402	12470
10°	12511	12198	12095
15°	12366	11836	11497
20°	12167	11320	10753
25°	11965	10735	10033
30°	11680	10133	9107
35°	11404	9477	8296
40°	11126	8800	7358
45°	10803	8035	6510
50°	10467	7267	5674
55°	10125	6441	4873
60°	9726	5570	4046
65°	9280	4676	3683
70°	8738	3852	3389
75°	8079	3512	3163
80°	7132	3133	2882
85°	5613	2482	2482



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.8	1.3
10°-20°	199.9	3.6
20°-30°	280.7	5.0
30°-40°	306.1	5.5
40°-50°	281.5	5.1
50°-60°	221.1	4.0
60°-70°	144.1	2.6
70°-80°	74.3	1.3
80°-90°	24.4	0.4
90°-100°	227.7	4.1
100°-110°	772.5	13.9
110°-120°	820.7	14.7
120°-130°	675.6	12.1
130°-140°	542.5	9.7
140°-150°	410.0	7.4
150°-160°	288.1	5.2
160°-170°	169.6	3.0
170°-180°	55.2	1.0
0°-30°	553.4	9.9
0°-40°	859.6	15.4
0°-60°	1362.1	24.5
0°-90°	1604.9	28.8
90°-120°	1820.9	32.7
90°-150°	3449.0	62.0
90°-180°	3962.0	71.2
0°-180°	5566.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	778	778	778	778	778	
5°	778	774	765	771	769	74
15°	740	731	708	695	688	208
25°	672	648	603	575	563	309
35°	579	541	481	438	421	362
45°	473	424	352	304	285	365
55°	360	304	229	188	173	321
65°	243	186	122	100	96	241
75°	130	82	56	52	51	137
85°	30	16	13	13	13	36
90°	1	15	37	36	36	3
95°	38	94	429	162	125	41
105°	134	202	811	1450	1234	142
115°	235	297	679	1401	1624	233
125°	328	389	653	1135	1317	292
135°	385	460	645	954	1092	298
145°	440	506	642	797	872	276
155°	500	540	623	705	732	230
165°	545	562	597	633	643	154
175°	568	569	574	581	579	54
180°	569	569	569	569	569	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	780.6	780.0	779.4	778.7	778.2	777.1	775.8	774.4	773.0	771.7	772.9
5°	777.8	777.0	776.3	775.5	774.7	773.3	771.3	769.2	767.2	765.2	766.6
7.5°	769.8	768.8	767.9	766.9	765.9	764.2	761.9	759.5	757.1	754.8	755.2
10°	763.1	762.0	760.8	759.8	758.7	756.6	753.5	750.3	747.2	744.0	743.6
12.5°	754.6	753.3	751.9	750.5	749.2	746.6	742.5	738.6	734.5	730.6	729.7
15°	739.8	738.1	736.4	734.6	732.9	729.4	724.1	718.8	713.5	708.1	705.2
17.5°	721.7	719.1	716.4	713.8	711.1	706.4	699.6	692.8	686.0	679.1	675.6
20°	708.1	705.0	701.9	698.8	695.6	690.1	682.3	674.5	666.7	658.8	655.0
22.5°	693.5	690.0	686.5	683.0	679.5	673.4	664.5	655.6	646.9	638.0	633.0
25°	671.6	666.6	661.6	656.5	651.5	643.9	633.5	623.2	612.8	602.6	596.2
27.5°	645.1	639.6	634.1	628.8	623.3	614.7	603.1	591.4	579.9	568.2	560.7
30°	626.5	620.6	614.6	608.7	602.8	593.5	581.0	568.4	555.9	543.5	535.5
32.5°	608.5	601.5	594.6	587.7	580.7	570.8	558.1	545.3	532.5	519.8	510.7
35°	578.6	570.6	562.7	554.7	546.7	535.8	522.1	508.3	494.6	480.8	470.9
37.5°	548.7	540.0	531.2	522.5	513.8	502.0	487.4	472.7	458.0	443.4	432.4
40°	527.9	518.6	509.2	499.8	490.4	478.2	463.0	447.8	432.6	417.5	406.3
42.5°	506.5	496.6	486.7	476.9	467.0	454.2	438.6	422.8	407.2	391.5	380.0
45°	473.1	462.6	452.0	441.6	431.1	417.6	401.2	384.8	368.3	351.9	340.8
47.5°	440.4	429.2	418.2	407.1	396.0	381.9	365.0	348.0	331.0	314.1	303.0
50°	416.7	405.6	394.5	383.4	372.3	358.2	340.9	323.8	306.5	289.3	278.5
52.5°	393.6	382.0	370.4	358.8	347.2	333.0	316.1	299.4	282.5	265.7	255.2
55°	359.7	347.5	335.3	323.1	310.9	296.3	279.5	262.6	245.6	228.8	219.4
57.5°	324.9	312.5	299.9	287.4	274.8	260.5	244.3	228.0	211.8	195.6	186.9
60°	301.2	288.8	276.3	263.7	251.2	237.0	220.8	204.7	188.6	172.5	164.5
62.5°	278.1	265.7	253.2	240.6	228.1	214.2	198.9	183.5	168.1	152.8	145.2
65°	242.9	230.2	217.5	204.8	192.2	178.8	164.8	150.6	136.6	122.4	117.2
67.5°	208.8	196.2	183.6	171.1	158.4	145.8	133.2	120.6	107.8	95.2	92.7
70°	185.1	173.0	160.7	148.5	136.3	124.8	114.0	103.2	92.5	81.6	80.1
72.5°	162.6	150.9	139.2	127.5	115.8	105.7	97.0	88.3	79.6	71.0	69.7
75°	129.5	118.6	107.6	96.7	85.7	77.6	72.3	66.9	61.6	56.3	55.2
77.5°	97.0	87.4	77.8	68.1	58.6	52.5	50.0	47.4	44.8	42.2	41.6
80°	76.7	68.7	60.8	52.8	44.8	40.1	38.5	36.9	35.3	33.7	33.2
82.5°	58.2	51.9	45.7	39.5	33.3	29.6	28.6	27.4	26.4	25.4	25.0
85°	30.3	27.0	23.7	20.5	17.2	15.3	14.8	14.3	13.9	13.4	13.4
87.5°	9.2	8.9	8.8	8.2	7.6	7.8	8.9	10.5	11.7	12.0	11.6
90°	1.1	4.3	8.8	10.9	13.1	16.4	21.9	29.6	36.1	37.2	36.1
92.5°	13.4	19.2	27.1	32.0	39.4	49.7	74.5	109.2	140.3	142.3	120.3
95°	38.4	42.7	53.6	63.5	81.1	107.3	157.7	252.9	379.9	429.2	375.6
97.5°	62.4	68.3	79.9	94.8	115.0	144.8	208.0	340.7	551.9	732.7	768.6
100°	84.3	87.6	97.5	115.0	136.9	167.5	225.6	359.1	595.6	865.0	1022.7
102.5°	104.4	106.9	116.7	134.2	157.0	187.7	241.3	360.1	579.0	869.4	1117.3
105°	133.6	138.0	145.6	162.0	186.2	216.8	268.2	365.7	546.4	811.3	1102.6
107.5°	165.1	168.6	176.1	191.1	215.1	245.9	295.9	380.8	530.2	749.1	1006.4
110°	186.2	190.5	197.1	211.3	234.3	266.1	314.2	393.0	526.7	719.3	946.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	205.4	209.8	217.3	230.5	252.7	285.3	331.8	406.2	527.5	700.1	904.0
115°	235.4	240.9	247.4	260.6	282.5	312.1	359.1	425.9	532.2	678.8	851.9
117.5°	266.6	270.9	277.5	289.1	310.1	340.7	384.3	447.0	540.0	668.5	819.0
120°	285.8	290.1	296.7	306.6	328.5	359.1	401.8	461.0	545.3	662.4	801.4
122.5°	304.2	307.6	314.2	325.0	346.9	378.4	418.5	473.3	551.4	658.9	786.6
125°	328.5	331.8	338.4	351.5	373.3	404.1	443.5	492.8	560.6	652.6	765.3
127.5°	347.7	352.1	361.4	375.8	396.8	428.3	466.7	510.9	570.0	648.8	745.6
130°	359.1	363.5	374.5	389.8	411.7	442.3	480.7	522.3	577.0	647.1	732.5
132.5°	369.7	374.9	386.7	402.9	425.7	456.4	492.9	533.7	584.0	646.2	722.0
135°	385.4	389.8	402.9	419.3	444.5	475.2	510.2	548.6	592.4	644.9	707.3
137.5°	400.3	405.6	418.7	436.2	461.2	489.7	524.2	560.0	599.8	644.7	697.0
140°	411.7	416.0	429.2	446.8	470.8	499.3	532.2	566.1	603.3	643.9	690.9
142.5°	423.1	426.6	438.8	456.4	479.6	506.3	538.3	571.4	606.0	643.9	684.8
145°	440.2	444.5	455.5	471.9	493.8	517.9	547.4	578.2	608.8	641.6	676.7
147.5°	458.5	461.8	472.3	487.5	505.7	527.1	554.9	581.8	609.6	637.7	668.4
150°	470.8	474.1	482.9	497.1	513.5	533.2	558.5	583.6	608.8	635.1	661.3
152.5°	483.1	484.7	493.3	505.9	521.4	539.3	561.9	584.5	607.0	630.7	655.2
155°	500.4	501.4	508.0	520.1	532.2	548.6	567.1	585.8	604.4	623.0	643.9
157.5°	514.8	515.9	521.2	531.7	541.3	555.2	570.9	585.8	599.4	615.1	633.1
160°	524.4	525.6	529.9	538.7	547.4	559.5	572.7	585.8	596.7	609.9	625.2
162.5°	534.1	533.5	537.8	544.8	552.7	562.1	573.5	584.9	594.1	605.5	618.2
165°	545.3	544.2	546.4	552.9	558.5	565.0	574.9	582.5	589.1	596.7	606.6
167.5°	554.5	553.2	555.2	559.3	563.3	567.4	574.6	581.0	584.0	589.1	595.2
170°	560.6	558.5	559.5	562.8	565.0	568.3	573.7	579.2	581.4	584.7	589.1
172.5°	564.1	562.8	562.1	565.4	566.8	569.1	572.9	576.6	577.9	579.5	583.0
175°	568.3	567.1	566.1	568.3	568.3	569.4	571.6	573.7	572.7	573.7	574.9
177.5°	570.2	568.4	567.6	569.4	569.4	569.4	570.2	572.0	570.2	569.4	570.2
180°	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	777.8	777.8	777.8	777.8	777.8	777.8	777.8	777.8
2.5°	774.1	775.4	776.7	777.1	776.9	776.7	776.4	776.2
5°	768.0	769.4	770.8	771.3	770.8	770.3	769.9	769.4
7.5°	755.5	755.9	756.4	756.2	755.4	754.5	753.8	752.9
10°	743.1	742.6	742.2	741.5	740.6	739.6	738.7	737.7
12.5°	728.9	728.0	727.2	725.9	724.3	722.8	721.2	719.7
15°	702.2	699.3	696.3	694.0	692.4	690.9	689.3	687.8
17.5°	672.0	668.5	665.0	661.9	659.2	656.5	653.8	651.1
20°	651.0	647.1	643.2	639.5	636.1	632.6	629.2	625.8
22.5°	627.9	622.9	617.9	614.1	611.5	609.0	606.4	603.8
25°	589.7	583.3	576.9	572.5	570.1	567.8	565.5	563.2
27.5°	553.3	545.7	538.3	532.7	529.0	525.3	521.5	517.8
30°	527.4	519.5	511.5	505.4	501.1	497.0	492.8	488.5
32.5°	501.5	492.5	483.3	476.8	472.9	468.9	464.9	460.9
35°	461.1	451.2	441.4	434.7	431.3	427.8	424.4	420.9
37.5°	421.6	410.8	399.9	392.5	388.6	384.7	380.7	376.7
40°	395.2	384.1	373.0	365.4	361.4	357.3	353.2	349.1
42.5°	368.5	357.0	345.6	337.9	333.9	330.0	326.0	322.1
45°	329.7	318.7	307.6	300.1	296.3	292.6	288.8	285.1
47.5°	292.0	281.0	269.9	262.7	259.3	255.9	252.4	249.0
50°	267.7	256.9	246.1	239.1	235.8	232.5	229.2	225.9
52.5°	244.8	234.4	223.9	217.3	214.2	211.2	208.1	205.1
55°	210.0	200.6	191.2	185.0	182.1	179.1	176.2	173.1
57.5°	178.3	169.8	161.2	155.6	153.1	150.6	148.1	145.5
60°	156.5	148.5	140.5	135.3	132.8	130.3	127.8	125.3
62.5°	137.5	130.0	122.3	117.8	116.3	114.8	113.3	111.8
65°	111.9	106.5	101.2	98.3	97.8	97.4	96.9	96.4
67.5°	90.3	87.8	85.4	84.0	83.4	82.9	82.5	81.9
70°	78.5	77.0	75.4	74.3	73.7	73.0	72.4	71.8
72.5°	68.3	67.0	65.7	64.8	64.5	64.1	63.7	63.3
75°	54.1	53.1	51.9	51.3	51.2	51.0	50.8	50.7
77.5°	41.0	40.3	39.8	39.3	39.0	38.8	38.5	38.3
80°	32.5	32.0	31.3	31.0	31.0	31.0	31.0	31.0
82.5°	24.6	24.2	23.8	23.7	23.7	23.7	23.7	23.7
85°	13.4	13.4	13.4	13.4	13.4	13.4	13.4	13.4
87.5°	11.2	10.7	11.0	11.1	11.1	11.1	11.1	11.1
90°	35.1	32.9	35.1	36.1	36.1	36.1	36.1	36.1
92.5°	95.5	81.9	72.7	65.9	65.0	61.5	62.4	60.7
95°	286.9	220.1	174.1	150.0	135.7	127.1	123.8	124.8
97.5°	669.4	547.7	429.2	350.2	297.8	270.9	254.9	245.7
100°	999.7	863.9	713.9	581.4	490.5	443.5	411.7	392.0
102.5°	1216.1	1185.3	1075.6	935.3	836.5	756.2	716.5	689.8
105°	1330.3	1454.1	1468.3	1432.2	1364.2	1296.4	1249.3	1234.0
107.5°	1248.0	1434.4	1548.2	1601.2	1609.8	1606.0	1596.6	1576.2
110°	1177.0	1373.0	1513.2	1603.0	1650.0	1670.8	1680.7	1679.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1112.2	1300.3	1450.1	1553.0	1618.5	1653.3	1672.0	1677.8
115°	1032.6	1201.2	1344.5	1457.4	1535.1	1585.5	1613.9	1623.8
117.5°	972.5	1120.6	1250.7	1356.4	1435.7	1488.8	1518.9	1527.2
120°	942.7	1078.5	1194.6	1294.2	1370.8	1422.3	1454.1	1465.0
122.5°	919.1	1043.5	1153.4	1243.4	1312.1	1362.7	1391.0	1400.1
125°	884.7	997.5	1093.8	1175.9	1239.4	1281.1	1308.4	1317.2
127.5°	850.7	952.8	1043.7	1119.5	1174.9	1213.8	1237.5	1244.5
130°	828.9	923.0	1009.6	1081.8	1135.5	1172.7	1194.6	1203.3
132.5°	807.9	895.0	974.5	1042.4	1095.1	1132.4	1152.5	1160.4
135°	778.4	850.7	923.0	984.3	1031.4	1067.5	1087.2	1091.7
137.5°	755.1	815.5	872.9	926.3	969.2	1000.3	1017.7	1024.2
140°	740.2	792.8	843.1	891.3	926.3	954.8	971.2	977.8
142.5°	727.9	772.6	816.0	856.2	889.5	915.4	930.0	931.3
145°	710.6	746.8	780.7	812.5	838.7	857.3	868.3	871.6
147.5°	697.3	725.8	752.2	775.4	797.1	812.0	819.4	821.4
150°	687.6	711.7	734.7	754.4	770.8	784.0	790.5	791.6
152.5°	678.0	700.3	719.8	736.9	749.8	761.2	766.0	766.2
155°	664.6	682.1	698.5	710.6	722.6	730.3	734.7	732.5
157.5°	649.0	663.7	677.5	686.9	695.5	701.8	703.8	703.8
160°	639.4	651.5	663.5	671.2	678.8	684.3	685.4	685.4
162.5°	629.8	640.1	650.4	656.3	663.9	667.7	668.7	667.9
165°	615.4	623.0	630.7	635.1	639.4	643.9	643.9	642.7
167.5°	601.5	607.5	612.7	616.7	618.6	621.0	620.9	619.5
170°	594.6	597.9	602.2	604.4	605.5	608.8	607.7	605.5
172.5°	586.6	589.1	592.6	593.9	595.0	596.5	595.4	594.1
175°	578.2	579.2	580.3	581.4	581.4	582.5	581.4	579.2
177.5°	572.0	572.0	572.9	572.9	572.9	572.9	572.0	570.2
180°	569.4	569.4	569.4	569.4	569.4	569.4	569.4	569.4

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