

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: P331461-930

Luminaire Tested: **SA2XXDIP-C1005D1080U930-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331461-930
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: SA2XXDIP-C1005D1080U930-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6720.7 lumens
Efficiency: N/A
Efficacy: 93.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

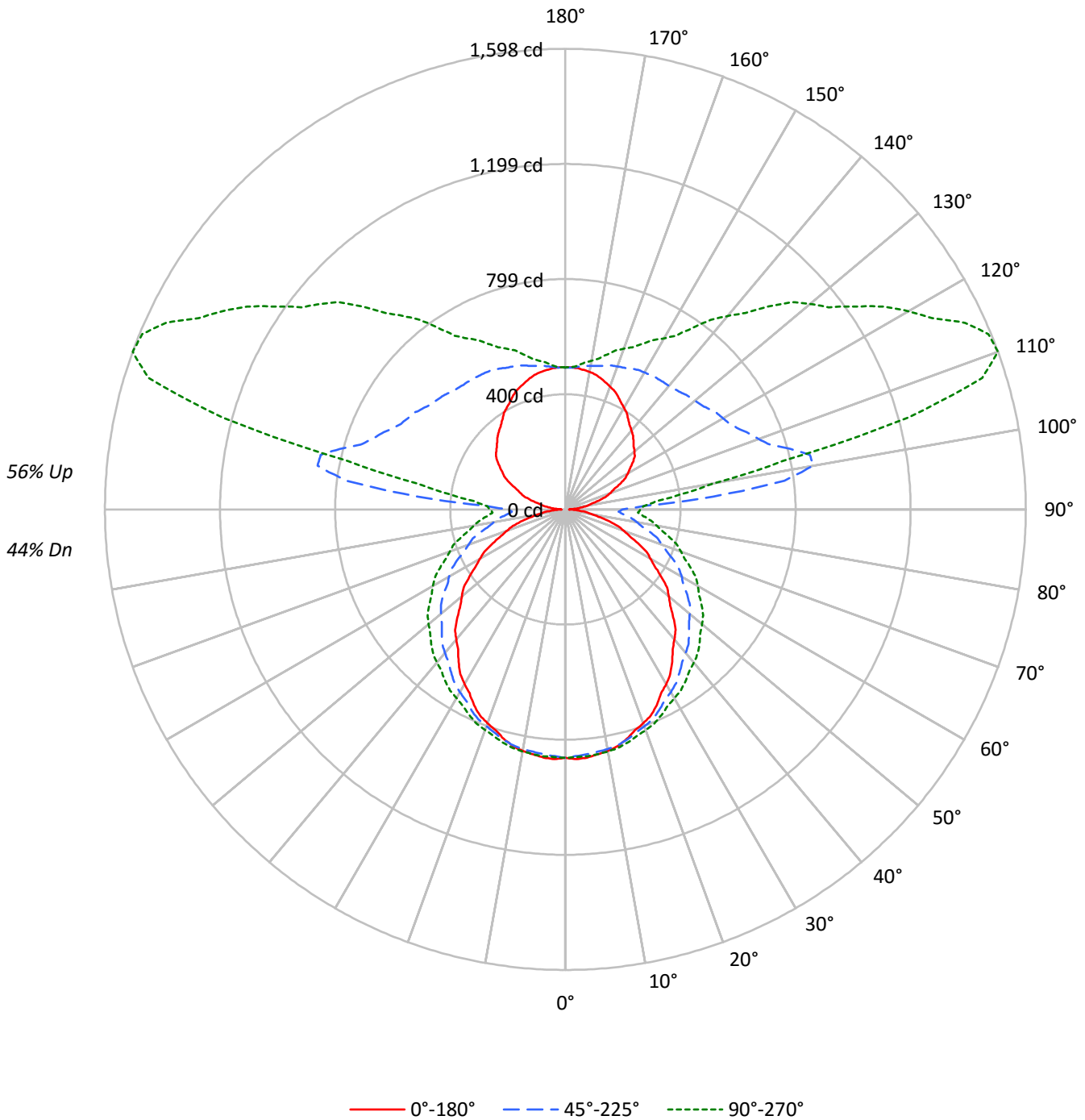
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	90	86	82	87	82	79	75	68	65	63	55	53	51	42	41	40	34
2	86	78	71	66	78	71	66	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	56	50	51	46	42	41	38	34	32	29	27	23
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	33	28	25	25	22	20	16
6	60	48	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	27	22	19	21	18	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	14	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	18	14	12	10
10	44	32	25	20	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13919	13919	13919
5°	13988	13400	13350
10°	13899	13004	12858
15°	13709	12584	12339
20°	13467	12136	11842
25°	13227	11701	11390
30°	12890	11257	10936
35°	12550	10828	10617
40°	12191	10461	10297
45°	11850	10133	10022
50°	11485	9837	9754
55°	11101	9519	9479
60°	10631	9187	9189
65°	10145	8801	8846
70°	9596	8384	8474
75°	8897	7976	8132
80°	7792	7559	7784
85°	6733	7197	7515



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.7	1.2
10°-20°	234.3	3.5
20°-30°	355.0	5.3
30°-40°	432.4	6.4
40°-50°	465.2	6.9
50°-60°	451.7	6.7
60°-70°	394.4	5.9
70°-80°	303.7	4.5
80°-90°	208.2	3.1
90°-100°	337.3	5.0
100°-110°	770.8	11.5
110°-120°	777.6	11.6
120°-130°	622.2	9.3
130°-140°	485.2	7.2
140°-150°	357.4	5.3
150°-160°	249.2	3.7
160°-170°	146.7	2.2
170°-180°	47.8	0.7
0°-30°	670.9	10.0
0°-40°	1103.3	16.4
0°-60°	2020.2	30.1
0°-90°	2926.5	43.5
90°-120°	1885.7	28.1
90°-150°	3350.5	49.9
90°-180°	3794.0	56.5
0°-180°	6720.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	862	862	862	862	862	
5°	865	861	853	860	860	82
15°	825	827	827	838	837	232
25°	750	759	770	784	788	345
35°	646	667	691	717	727	404
45°	530	564	607	644	658	409
55°	406	452	516	559	577	363
65°	277	339	412	462	480	275
75°	154	224	304	355	374	163
85°	45	123	202	253	272	48
90°	14	98	197	244	261	10
95°	43	151	515	330	314	43
105°	122	218	809	1404	1232	130
115°	209	278	662	1323	1531	206
125°	287	341	607	1057	1227	255
135°	335	400	572	864	994	259
145°	381	438	555	696	768	239
155°	433	467	539	609	634	199
165°	472	486	516	547	556	133
175°	492	492	496	502	501	47
180°	492	492	492	492	492	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	867.2	866.5	865.8	865.1	864.5	863.3	861.8	860.2	858.7	857.1	858.3
5°	864.6	863.8	863.0	862.1	861.3	860.1	858.4	856.7	855.1	853.4	855.1
7.5°	856.9	856.3	855.7	855.2	854.7	853.8	852.5	851.2	849.9	848.6	850.6
10°	850.9	850.4	849.8	849.2	848.6	848.0	847.2	846.3	845.5	844.7	846.9
12.5°	840.9	841.0	841.1	841.2	841.3	841.1	840.5	839.8	839.3	838.6	840.9
15°	824.7	825.2	825.7	826.3	826.9	827.1	827.1	827.1	827.1	827.1	829.6
17.5°	803.6	804.9	806.0	807.1	808.3	809.3	810.2	811.1	812.0	812.9	815.5
20°	789.7	791.1	792.5	793.9	795.2	796.5	797.6	798.7	799.8	801.0	804.0
22.5°	774.7	776.2	777.9	779.5	781.1	782.7	784.2	785.8	787.3	788.9	792.0
25°	749.7	751.6	753.6	755.5	757.5	759.7	762.1	764.7	767.2	769.6	773.0
27.5°	719.7	722.8	726.0	729.2	732.4	735.4	738.3	741.3	744.2	747.2	751.4
30°	699.7	703.3	706.9	710.5	714.1	717.8	721.4	725.0	728.6	732.2	736.6
32.5°	677.7	681.8	685.8	689.9	693.9	698.1	702.4	706.6	710.9	715.2	720.3
35°	646.0	650.7	655.4	660.1	664.9	669.8	675.1	680.4	685.7	691.0	697.1
37.5°	611.5	616.9	622.4	627.8	633.2	639.4	646.2	653.1	659.9	666.8	673.5
40°	588.5	594.6	600.7	606.8	612.9	619.7	627.2	634.7	642.2	649.7	657.0
42.5°	566.6	572.6	578.7	584.8	590.9	598.3	606.9	615.6	624.1	632.8	640.6
45°	529.8	537.3	544.8	552.3	559.8	568.3	578.1	587.8	597.5	607.2	615.9
47.5°	493.6	501.7	509.9	518.0	526.2	536.0	547.4	558.7	570.1	581.5	590.5
50°	468.6	477.2	485.8	494.4	503.0	513.6	526.0	538.5	551.0	563.5	573.0
52.5°	444.6	453.6	462.7	471.7	480.8	491.9	505.0	518.2	531.3	544.5	554.2
55°	406.1	416.0	426.1	436.1	446.1	458.3	472.7	487.1	501.6	516.0	526.0
57.5°	368.1	379.4	390.6	401.9	413.2	426.2	440.9	455.6	470.3	485.0	495.8
60°	341.1	353.0	365.0	376.9	388.9	402.8	418.6	434.4	450.2	466.0	476.6
62.5°	317.2	329.5	341.9	354.2	366.6	380.7	396.6	412.4	428.3	444.1	455.3
65°	277.4	291.0	304.6	318.2	331.8	346.8	363.2	379.5	395.9	412.3	423.7
67.5°	240.9	255.1	269.3	283.6	297.7	313.2	330.0	346.8	363.5	380.3	391.8
70°	214.9	229.3	243.8	258.2	272.6	288.5	305.7	322.9	340.1	357.3	369.2
72.5°	190.9	205.8	220.7	235.5	250.5	266.6	284.1	301.5	318.9	336.4	348.1
75°	153.7	169.3	184.7	200.3	215.9	232.5	250.3	268.1	285.8	303.6	315.5
77.5°	117.7	134.0	150.3	166.5	182.8	199.9	218.0	236.0	254.0	272.1	284.1
80°	93.7	110.6	127.6	144.6	161.4	179.0	197.0	215.1	233.1	251.1	262.8
82.5°	73.7	90.4	107.1	123.8	140.6	158.1	176.3	194.6	212.9	231.1	242.8
85°	45.0	62.2	79.4	96.6	113.8	131.3	149.1	166.9	184.7	202.4	214.1
87.5°	24.7	41.8	59.1	76.1	92.9	110.7	129.4	148.5	167.4	185.4	196.5
90°	13.5	32.4	52.3	70.3	88.3	108.0	130.5	155.0	178.4	197.1	207.3
92.5°	23.1	43.1	65.0	84.1	105.6	130.5	169.0	216.2	260.2	279.1	270.8
95°	43.1	60.0	82.5	104.1	132.2	169.9	230.1	329.1	455.7	514.9	479.1
97.5°	62.7	79.5	101.1	125.6	154.6	194.2	264.9	395.7	594.3	766.8	808.1
100°	81.7	94.8	113.6	139.0	168.2	207.7	273.4	404.5	624.6	873.2	1019.9
102.5°	98.1	109.6	127.5	152.1	181.1	219.9	281.4	399.2	603.6	869.9	1094.5
105°	121.8	133.6	148.3	170.6	199.5	237.3	296.2	394.9	565.7	809.3	1070.9
107.5°	148.8	158.3	171.2	190.7	217.8	254.6	311.6	398.9	542.0	745.2	977.1
110°	166.0	175.4	186.6	204.5	229.9	266.9	322.2	404.0	533.2	713.5	918.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.7	191.1	202.2	218.4	242.2	279.2	332.4	409.7	527.6	689.8	875.1
115°	208.6	216.4	225.2	239.5	261.5	294.9	348.1	418.4	522.8	662.2	820.1
117.5°	234.2	240.0	247.8	259.8	280.0	313.2	362.5	428.2	520.3	643.0	781.4
120°	250.9	255.8	262.6	272.3	292.3	325.0	373.0	435.2	519.3	631.7	759.8
122.5°	266.8	270.4	276.5	286.2	305.6	338.3	383.4	441.2	519.3	622.7	740.7
125°	286.7	289.5	295.1	306.6	325.5	356.4	399.4	450.9	518.5	607.0	712.0
127.5°	303.3	306.8	314.5	326.7	344.6	375.4	415.6	461.1	519.4	594.8	685.3
130°	313.2	316.7	325.9	338.8	357.5	386.8	425.7	467.6	520.8	587.3	667.7
132.5°	322.2	326.5	336.5	350.2	369.7	398.3	434.4	474.1	522.2	580.5	652.5
135°	334.6	338.4	349.8	364.0	385.8	413.7	446.8	482.7	523.3	571.6	631.4
137.5°	347.5	352.0	363.3	378.4	400.0	425.2	456.3	488.4	524.1	564.2	614.6
140°	357.3	360.9	371.9	386.9	407.4	432.2	461.1	491.1	523.8	559.4	604.5
142.5°	367.2	370.0	380.3	395.2	415.0	438.0	465.8	494.5	524.5	557.4	596.4
145°	380.7	384.5	394.0	408.2	427.1	448.0	473.5	500.1	526.6	555.0	587.0
147.5°	396.6	399.5	408.5	421.7	437.4	455.9	480.0	503.3	527.3	551.6	578.4
150°	407.2	410.1	417.7	430.0	444.2	461.2	483.1	504.8	526.6	549.3	572.0
152.5°	417.8	419.2	426.7	437.6	451.0	466.5	486.1	505.6	525.1	545.5	566.7
155°	432.8	433.7	439.4	449.9	460.3	474.5	490.6	506.7	522.8	538.9	556.9
157.5°	445.3	446.3	450.9	459.9	468.2	480.2	493.8	506.7	518.4	532.1	547.6
160°	453.6	454.6	458.4	465.9	473.5	484.0	495.4	506.7	516.2	527.6	540.8
162.5°	462.0	461.5	465.2	471.2	478.1	486.2	496.1	506.0	513.9	523.7	534.8
165°	471.7	470.8	472.6	478.3	483.1	488.7	497.3	503.9	509.6	516.2	524.7
167.5°	479.6	478.5	480.2	483.8	487.2	490.8	497.0	502.6	505.2	509.6	514.9
170°	484.9	483.1	484.0	486.8	488.7	491.5	496.3	501.0	502.9	505.7	509.6
172.5°	488.0	486.8	486.2	489.1	490.2	492.3	495.5	498.7	499.9	501.2	504.3
175°	491.5	490.6	489.7	491.5	491.5	492.5	494.4	496.3	495.4	496.3	497.3
177.5°	493.3	491.7	491.0	492.5	492.5	492.5	493.3	494.8	493.3	492.5	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	862.1	862.1	862.1	862.1	862.1	862.1	862.1	862.1
2.5°	859.3	860.5	861.6	861.9	861.4	861.0	860.5	860.1
5°	856.7	858.4	860.1	860.7	860.5	860.2	859.9	859.7
7.5°	852.6	854.7	856.6	857.5	857.2	857.0	856.6	856.4
10°	849.1	851.3	853.5	854.5	854.2	853.9	853.7	853.4
12.5°	843.1	845.3	847.5	848.5	848.2	847.9	847.7	847.4
15°	832.2	834.6	837.1	838.3	838.0	837.7	837.4	837.1
17.5°	818.2	820.8	823.4	824.7	824.7	824.7	824.7	824.7
20°	807.0	810.1	813.1	814.6	814.6	814.6	814.6	814.6
22.5°	795.0	798.1	801.1	802.9	803.3	803.8	804.2	804.7
25°	776.3	779.7	783.0	785.1	785.9	786.8	787.6	788.4
27.5°	755.6	759.9	764.1	766.5	767.1	767.7	768.3	768.9
30°	741.1	745.5	750.0	752.6	753.4	754.2	755.1	755.9
32.5°	725.5	730.5	735.6	738.9	740.5	741.9	743.5	744.9
35°	703.2	709.3	715.4	719.4	721.4	723.3	725.3	727.2
37.5°	680.3	687.1	693.8	698.2	700.3	702.4	704.4	706.5
40°	664.1	671.4	678.6	683.5	686.0	688.4	691.0	693.5
42.5°	648.5	656.4	664.3	669.4	672.0	674.5	676.9	679.5
45°	624.4	633.1	641.6	647.3	650.1	652.9	655.7	658.4
47.5°	599.5	608.5	617.5	623.5	626.6	629.7	632.7	635.8
50°	582.4	591.8	601.3	607.6	610.6	613.6	616.7	619.7
52.5°	563.9	573.5	583.2	589.6	592.9	596.2	599.5	602.8
55°	536.1	546.0	556.0	562.8	566.4	570.1	573.6	577.2
57.5°	506.6	517.4	528.2	535.3	539.0	542.7	546.3	550.0
60°	487.1	497.7	508.3	515.5	519.3	523.3	527.2	531.0
62.5°	466.5	477.7	488.9	496.4	500.0	503.7	507.4	511.0
65°	435.1	446.5	457.9	465.4	469.0	472.5	476.2	479.8
67.5°	403.3	414.8	426.3	434.0	437.7	441.5	445.3	449.1
70°	381.2	393.1	405.1	412.7	416.0	419.4	422.7	426.1
72.5°	359.8	371.5	383.2	391.1	395.1	399.1	403.1	407.1
75°	327.5	339.4	351.4	359.1	362.7	366.4	370.0	373.6
77.5°	295.9	307.8	319.7	327.6	331.4	335.3	339.2	343.1
80°	274.4	286.2	297.8	305.6	309.5	313.3	317.2	321.1
82.5°	254.5	266.1	277.8	285.4	289.1	292.8	296.4	300.1
85°	225.8	237.4	249.1	256.8	260.7	264.6	268.5	272.4
87.5°	207.7	218.6	230.3	237.9	241.5	245.1	248.6	252.2
90°	217.4	226.7	239.7	247.9	251.2	254.5	257.8	261.1
92.5°	260.3	259.4	262.4	263.6	266.2	266.4	270.6	272.4
95°	412.9	365.7	336.5	322.6	313.6	309.3	309.9	314.1
97.5°	732.5	637.5	545.3	483.7	441.7	421.7	411.2	406.4
100°	1010.2	903.0	783.6	675.6	600.1	562.4	538.0	524.0
102.5°	1189.9	1173.5	1088.6	973.7	891.4	824.9	793.7	773.6
105°	1277.7	1394.4	1416.4	1391.6	1335.9	1280.2	1242.5	1232.3
107.5°	1195.4	1365.9	1473.7	1525.8	1536.2	1536.0	1531.0	1516.4
110°	1127.2	1305.5	1435.7	1519.3	1563.1	1584.1	1595.7	1597.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1064.0	1235.7	1374.1	1469.1	1528.8	1562.0	1581.1	1589.3
115°	984.7	1139.0	1271.4	1374.6	1444.9	1491.5	1519.1	1530.7
117.5°	922.3	1058.7	1179.4	1276.4	1347.8	1396.7	1425.5	1435.5
120°	889.7	1015.0	1123.2	1214.7	1284.1	1331.6	1362.2	1374.7
122.5°	862.8	978.0	1080.6	1163.6	1225.6	1272.0	1299.0	1309.6
125°	822.7	927.8	1018.6	1094.7	1152.1	1190.6	1216.8	1226.9
127.5°	783.2	878.3	963.8	1034.0	1084.3	1120.5	1143.5	1151.9
130°	757.7	845.9	927.4	994.3	1042.9	1077.4	1098.5	1108.3
132.5°	733.1	815.0	890.2	953.2	1001.1	1035.5	1055.2	1064.2
135°	698.8	767.1	835.5	892.5	935.5	969.0	988.2	994.3
137.5°	669.8	727.2	782.0	831.7	870.7	899.5	916.3	923.9
140°	651.7	701.6	749.5	794.3	826.2	852.6	868.4	875.8
142.5°	637.2	679.5	720.5	757.8	788.1	811.9	826.1	828.6
145°	618.0	650.9	681.9	710.9	735.1	752.5	763.4	767.6
147.5°	603.6	628.4	651.6	672.1	691.5	705.1	712.2	714.5
150°	594.8	615.6	635.5	652.6	666.8	678.2	683.8	684.8
152.5°	586.4	605.8	622.6	637.4	648.6	658.4	662.6	662.8
155°	574.9	590.0	604.2	614.7	625.1	631.7	635.5	633.7
157.5°	561.4	574.1	586.0	594.2	601.6	607.1	608.8	608.8
160°	553.1	563.5	574.0	580.6	587.2	591.9	592.9	592.9
162.5°	544.8	553.7	562.6	567.7	574.3	577.6	578.5	577.7
165°	532.3	538.9	545.5	549.3	553.1	556.9	556.9	556.0
167.5°	520.3	525.5	530.0	533.5	535.1	537.2	537.0	535.9
170°	514.3	517.1	520.9	522.8	523.7	526.6	525.6	523.7
172.5°	507.4	509.6	512.6	513.7	514.7	516.0	515.0	513.9
175°	500.1	501.0	502.0	502.9	502.9	503.9	502.9	501.0
177.5°	494.8	494.8	495.5	495.5	495.5	495.5	494.8	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5

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