

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: P331416-830

Luminaire Tested: **SA2XXDIP-C865D1080U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

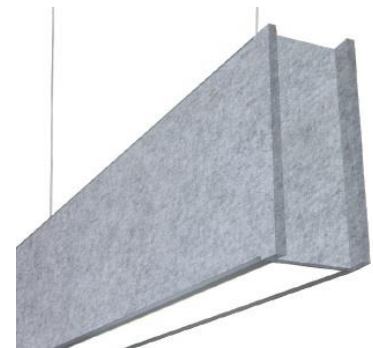
Test Information

Test Method: LM-79-08
Report Number: P331416-830
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: SA2XXDIP-C865D1080U830-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 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: 7259.5 lumens
Efficiency: N/A
Efficacy: 111.0 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

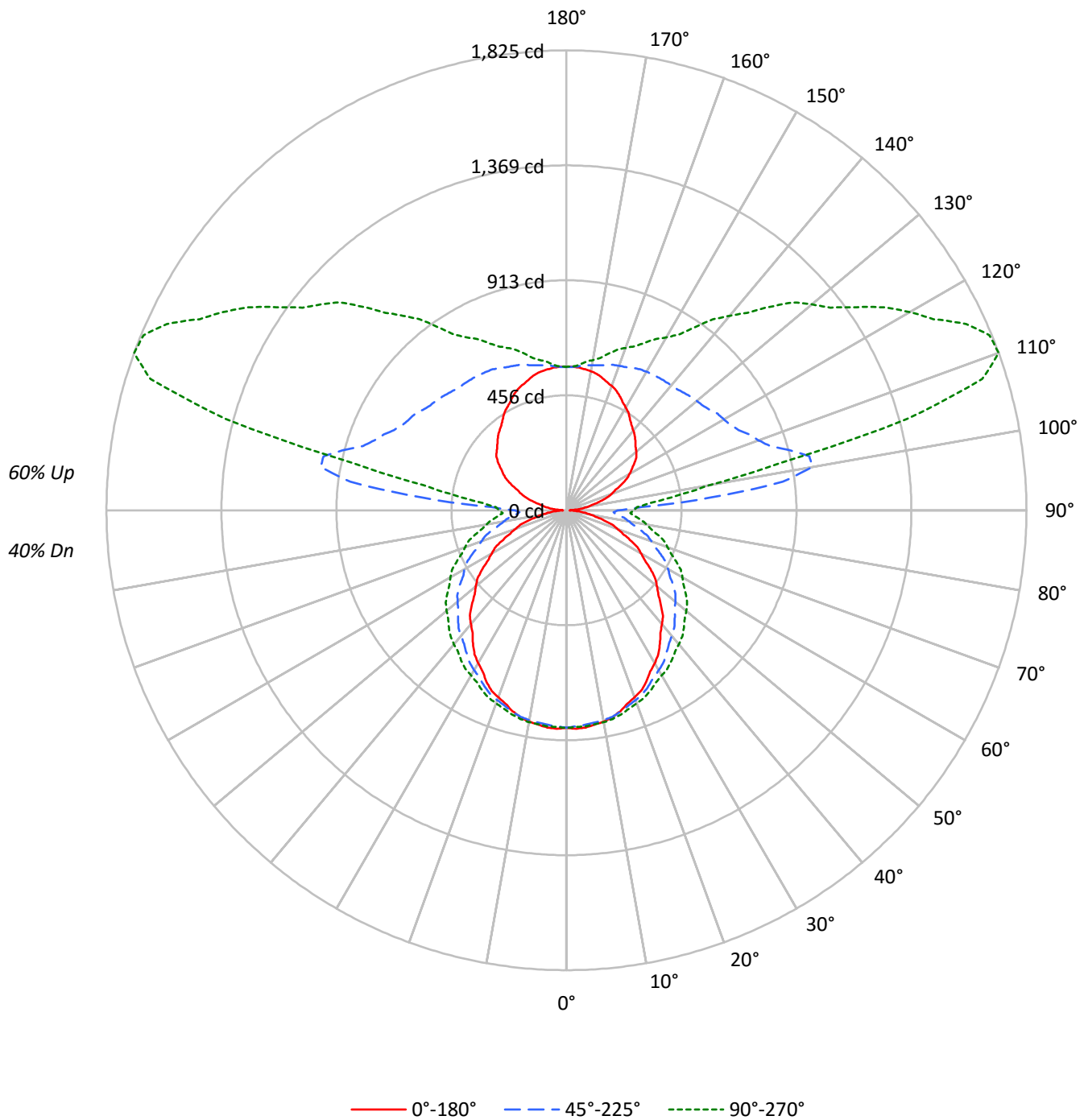
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47
1	94	90	85	81	86	82	78	75	66	64	61	53	51	49	40	39	37
2	85	78	71	65	77	71	65	60	58	53	50	45	43	40	34	32	31
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	28	26
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	27	24	22
5	65	53	45	38	59	48	41	35	40	34	30	31	27	24	24	21	19
6	60	47	39	33	54	43	36	31	35	30	26	28	24	21	21	19	16
7	55	42	34	29	50	39	32	27	32	26	22	26	21	18	20	17	14
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13
9	47	35	27	22	43	32	25	21	27	21	18	21	17	14	16	14	11
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.8	1.1
10°-20°	234.5	3.2
20°-30°	355.3	4.9
30°-40°	432.8	6.0
40°-50°	465.6	6.4
50°-60°	452.2	6.2
60°-70°	394.8	5.4
70°-80°	304.0	4.2
80°-90°	209.1	2.9
90°-100°	368.2	5.1
100°-110°	875.2	12.1
110°-120°	888.5	12.2
120°-130°	713.4	9.8
130°-140°	558.4	7.7
140°-150°	412.8	5.7
150°-160°	288.1	4.0
160°-170°	169.6	2.3
170°-180°	55.2	0.8
0°-30°	671.6	9.3
0°-40°	1104.4	15.2
0°-60°	2022.2	27.9
0°-90°	2930.1	40.4
90°-120°	2131.8	29.4
90°-150°	3816.4	52.6
90°-180°	4329.0	59.6
0°-180°	7259.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	14	100	202	249	266	11
95°	48	164	573	352	331	49
105°	140	246	919	1600	1399	149
115°	240	318	754	1512	1750	238
125°	331	393	695	1210	1405	294
135°	387	462	659	993	1142	299
145°	440	506	642	804	885	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°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.7	41.9	59.4	76.4	93.4	111.2	130.1	149.4	168.5	186.5	197.7
90°	13.6	33.0	53.5	71.8	90.1	110.4	133.7	159.1	183.4	202.4	212.4
92.5°	24.9	45.8	68.7	88.5	110.9	137.3	179.2	231.1	279.4	298.4	287.2
95°	48.4	65.8	89.8	112.7	143.3	184.5	251.5	363.4	507.1	573.1	530.0
97.5°	71.2	88.7	111.9	138.5	170.2	213.8	293.0	441.8	668.9	865.8	912.0
100°	93.0	106.6	126.8	154.6	186.7	230.4	304.0	453.1	705.1	990.0	1158.0
102.5°	112.3	124.0	143.3	170.1	202.4	245.2	314.1	447.8	681.9	987.4	1245.4
105°	139.9	152.3	168.0	192.5	224.6	266.6	332.4	444.3	639.5	918.9	1219.8
107.5°	171.1	181.1	194.9	216.5	246.9	287.9	351.7	450.4	613.6	846.5	1113.1
110°	191.1	201.0	213.2	233.0	261.6	302.9	364.7	457.1	604.4	810.7	1046.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.4	219.4	231.6	249.6	276.4	317.8	377.2	464.6	598.9	784.4	997.1
115°	240.4	248.9	258.5	274.8	299.7	337.1	396.6	476.0	594.7	753.9	935.2
117.5°	270.2	276.6	285.2	298.8	321.9	359.3	414.4	488.6	593.2	733.4	892.0
120°	289.5	295.0	302.7	313.7	336.7	373.4	427.3	497.5	593.0	721.2	868.1
122.5°	307.9	311.9	318.9	330.1	352.4	389.4	439.9	505.1	593.7	711.7	847.0
125°	331.0	334.2	340.8	354.0	375.9	410.9	459.3	517.5	594.3	695.1	815.4
127.5°	350.2	354.4	363.3	377.5	398.2	433.2	478.6	530.1	596.3	682.4	786.1
130°	361.7	365.7	376.5	391.4	413.1	446.5	490.7	538.1	598.7	674.6	766.7
132.5°	372.1	377.1	388.7	404.6	427.1	459.9	501.0	546.2	601.1	667.7	750.0
135°	386.6	391.1	404.2	420.6	445.8	477.9	515.7	556.8	603.3	658.6	726.9
137.5°	401.5	406.8	419.8	437.3	462.2	491.3	527.1	564.0	605.1	651.2	708.6
140°	412.9	417.1	429.9	447.1	471.0	499.5	533.0	567.5	605.2	646.3	697.9
142.5°	424.3	427.5	439.5	456.8	479.8	506.3	538.5	571.7	606.3	644.3	688.8
145°	440.2	444.5	455.5	471.9	493.8	517.9	547.4	578.2	608.8	641.6	678.3
147.5°	458.5	461.8	472.3	487.5	505.7	527.1	554.9	581.8	609.6	637.7	668.5
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°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	208.8	219.7	231.5	239.1	242.7	246.3	249.8	253.4
90°	222.3	231.3	244.6	252.9	256.3	259.6	263.0	266.3
92.5°	273.3	270.7	272.4	272.7	275.1	275.0	279.2	280.8
95°	451.9	395.6	360.1	343.0	332.2	326.7	326.8	331.2
97.5°	823.1	711.6	603.4	531.1	482.1	458.5	445.7	439.8
100°	1145.3	1019.8	880.1	754.3	666.5	622.5	593.7	577.1
102.5°	1354.2	1333.6	1234.0	1100.1	1004.5	927.2	890.5	866.9
105°	1457.4	1590.8	1614.8	1585.0	1520.2	1455.4	1411.4	1399.1
107.5°	1364.0	1559.6	1682.9	1742.1	1753.7	1753.0	1746.6	1729.4
110°	1286.1	1491.0	1640.0	1735.8	1785.9	1809.8	1822.7	1824.7

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1214.3	1411.3	1570.0	1678.9	1747.4	1785.3	1806.9	1815.9
115°	1124.3	1301.2	1452.9	1571.4	1652.3	1705.6	1737.2	1750.1
117.5°	1053.8	1210.0	1348.3	1459.6	1541.7	1597.8	1630.6	1641.7
120°	1017.1	1160.6	1284.5	1389.5	1469.2	1523.7	1558.6	1572.5
122.5°	986.9	1118.9	1236.4	1331.5	1402.9	1456.0	1487.0	1498.7
125°	942.3	1062.5	1166.4	1253.5	1319.5	1363.6	1393.5	1404.8
127.5°	898.1	1007.0	1104.8	1185.2	1243.0	1284.5	1310.6	1320.0
130°	869.7	970.5	1063.8	1140.5	1196.3	1235.8	1259.9	1270.8
132.5°	842.3	935.9	1021.8	1094.0	1149.1	1188.5	1210.8	1221.0
135°	803.9	882.0	960.2	1025.5	1074.8	1113.1	1135.1	1141.7
137.5°	771.8	837.4	899.8	956.8	1001.5	1034.5	1053.8	1062.2
140°	751.6	808.6	863.4	914.6	951.3	981.5	999.6	1007.8
142.5°	735.6	783.7	830.7	873.5	908.2	935.5	951.6	954.3
145°	714.0	751.8	787.3	820.7	848.3	868.3	880.6	885.3
147.5°	697.7	726.4	753.1	776.7	799.1	814.6	822.7	825.4
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

(END OF REPORT)