

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: P331374-935

Luminaire Tested: **SA2XXDIP-C675D1080U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331374-935  
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-C675D1080U935-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

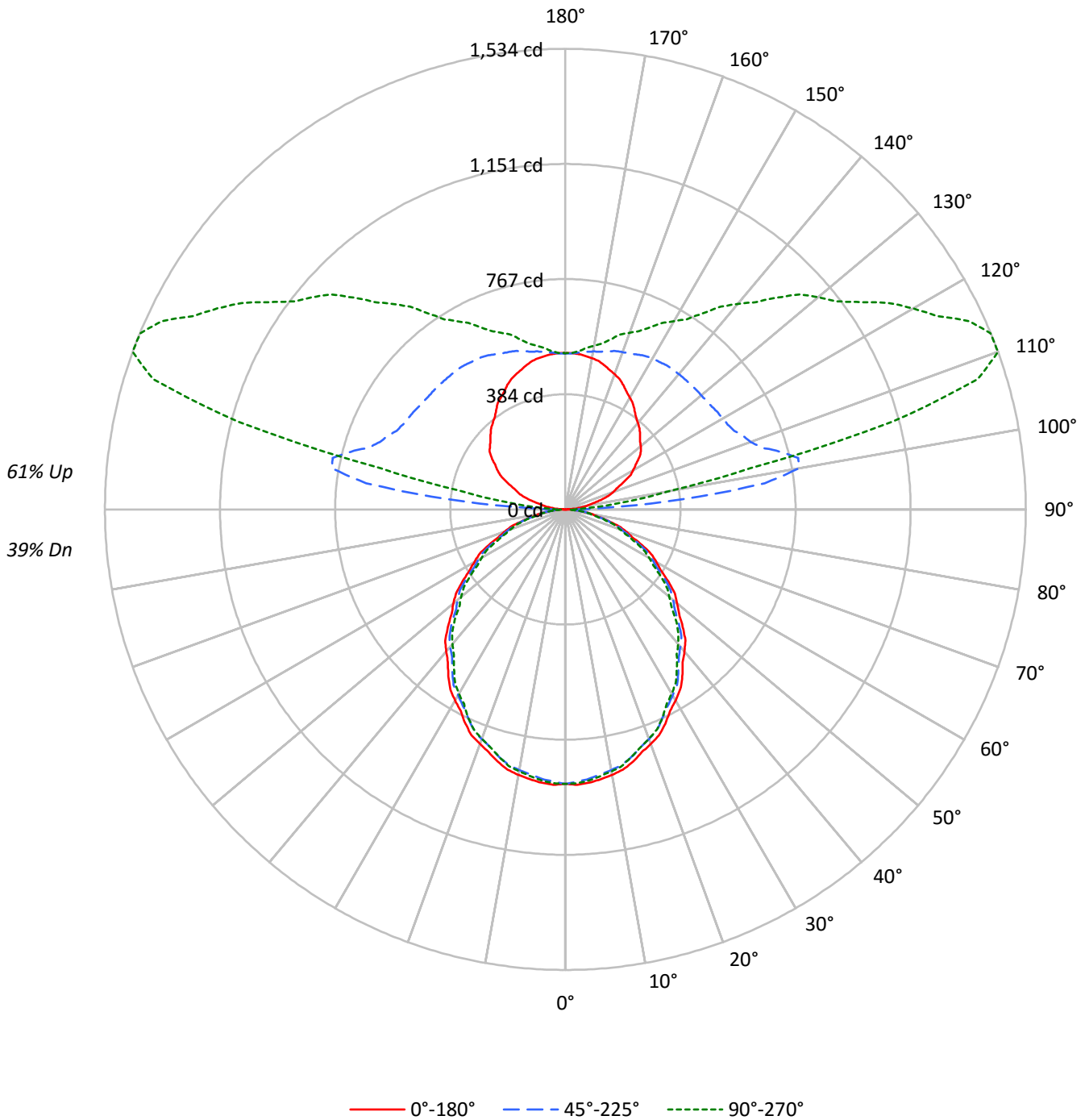
Lumens per Lamp: N/A  
Luminaire Lumens: 5949.5 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 56.9  
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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CATALOG NUMBER: SA2XXDIP-C675D1080U935-4F0-1E-UDD-F4

### 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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	87	83	80	77	68	65	63	54	52	51	41	40	39	33
2	87	80	73	68	79	72	67	63	59	56	52	47	45	42	36	34	33	28
3	79	70	63	57	72	64	58	53	52	48	44	42	38	36	32	30	28	23
4	72	62	54	48	66	56	50	44	46	41	37	37	34	31	28	26	24	20
5	66	55	47	41	60	50	43	38	41	36	32	33	29	27	26	23	21	17
6	61	49	41	36	55	45	38	33	37	32	28	30	26	23	23	21	18	15
7	56	44	37	31	51	41	34	29	34	29	25	27	23	20	21	18	16	14
8	52	40	33	27	47	37	30	26	31	26	22	25	21	18	19	17	15	12
9	49	37	29	24	44	34	27	23	28	23	20	23	19	16	18	15	13	11
10	45	34	26	22	41	31	25	20	26	21	18	21	17	15	17	14	12	10

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

	0°	45°	90°
0°	14759	14759	14759
5°	14815	14603	14687
10°	14728	14454	14526
15°	14544	14265	14252
20°	14287	13984	13969
25°	14031	13639	13639
30°	13699	13323	13207
35°	13391	12942	12751
40°	13004	12560	12319
45°	12622	12184	11880
50°	12208	11788	11369
55°	11778	11333	10911
60°	11296	10785	10388
65°	10777	10243	9773
70°	10126	9583	9130
75°	9214	8827	8609
80°	8173	7922	7513
85°	6688	6354	5687



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.0	1.4
10°-20°	241.9	4.1
20°-30°	355.5	6.0
30°-40°	412.9	6.9
40°-50°	412.5	6.9
50°-60°	359.7	6.0
60°-70°	266.0	4.5
70°-80°	150.6	2.5
80°-90°	45.2	0.8
90°-100°	208.0	3.5
100°-110°	705.7	11.9
110°-120°	749.7	12.6
120°-130°	617.2	10.4
130°-140°	495.6	8.3
140°-150°	374.5	6.3
150°-160°	263.2	4.4
160°-170°	154.9	2.6
170°-180°	50.4	0.8
0°-30°	683.3	11.5
0°-40°	1096.3	18.4
0°-60°	1868.5	31.4
0°-90°	2330.3	39.2
90°-120°	1663.4	28.0
90°-150°	3150.7	53.0
90°-180°	3619.0	60.8
0°-180°	5949.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	914	914	914	914	914	
5°	914	910	901	907	906	87
15°	870	865	853	857	853	245
25°	788	780	766	767	766	362
35°	679	670	657	651	647	424
45°	553	546	534	524	520	426
55°	418	413	403	392	388	374
65°	282	277	268	260	256	279
75°	148	146	142	137	138	158
85°	36	35	34	32	31	41
90°	1	14	34	32	33	4
95°	35	86	392	148	114	37
105°	122	184	741	1325	1127	130
115°	215	272	620	1280	1483	213
125°	300	355	596	1037	1203	266
135°	352	420	589	871	997	272
145°	402	462	586	728	796	252
155°	457	494	569	644	669	210
165°	498	513	545	578	587	140
175°	519	520	524	531	529	49
180°	520	520	520	520	520	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1
2.5°	918.3	917.6	916.8	916.0	915.2	914.0	912.2	910.5	908.8	907.1	908.6
5°	914.1	913.3	912.6	911.8	911.0	909.6	907.4	905.3	903.1	901.0	902.5
7.5°	906.0	904.8	903.6	902.4	901.2	899.5	897.3	895.1	892.9	890.7	892.3
10°	898.3	896.9	895.5	894.1	892.9	891.0	888.6	886.3	883.9	881.6	883.1
12.5°	887.8	886.6	885.3	884.1	882.9	881.1	878.7	876.4	874.1	871.8	872.9
15°	870.1	869.0	867.8	866.7	865.5	863.6	861.1	858.5	856.0	853.4	854.3
17.5°	847.7	846.4	845.3	844.1	843.0	841.1	838.5	835.9	833.4	830.8	831.7
20°	831.5	830.3	829.1	827.9	826.8	824.8	822.1	819.4	816.7	813.9	814.5
22.5°	815.3	813.6	812.0	810.4	808.7	806.7	804.1	801.5	798.9	796.3	796.4
25°	787.6	786.0	784.5	782.8	781.3	778.9	775.5	772.2	768.9	765.6	765.9
27.5°	755.9	754.5	753.1	751.7	750.3	748.3	745.6	743.0	740.4	737.8	737.2
30°	734.8	733.2	731.7	730.1	728.6	726.3	723.4	720.5	717.6	714.6	714.0
32.5°	712.3	711.0	709.8	708.5	707.3	705.2	702.1	699.0	695.9	692.8	691.7
35°	679.4	677.5	675.5	673.6	671.6	669.1	666.0	662.8	659.7	656.6	655.4
37.5°	642.3	640.6	638.9	637.1	635.5	633.0	629.9	626.8	623.7	620.5	619.1
40°	617.0	615.4	613.9	612.3	610.8	608.5	605.3	602.2	599.1	595.9	594.2
42.5°	592.5	590.8	589.3	587.7	586.2	583.8	580.7	577.6	574.5	571.4	569.4
45°	552.8	551.5	550.1	548.8	547.4	545.3	542.3	539.4	536.5	533.6	531.4
47.5°	513.5	512.2	510.9	509.6	508.3	506.2	503.1	500.1	497.1	494.0	491.7
50°	486.0	485.1	484.1	483.1	482.2	480.3	477.6	474.8	472.1	469.3	466.7
52.5°	459.3	458.1	456.8	455.5	454.2	452.3	449.7	447.1	444.5	442.0	439.7
55°	418.4	417.2	416.0	414.8	413.7	411.9	409.6	407.3	404.9	402.6	400.2
57.5°	377.2	376.3	375.4	374.4	373.5	371.8	369.2	366.6	364.0	361.4	359.1
60°	349.8	349.0	348.3	347.5	346.7	344.9	342.2	339.5	336.7	334.0	331.8
62.5°	323.1	321.8	320.6	319.3	318.1	316.4	314.4	312.2	310.1	308.0	306.0
65°	282.1	280.9	279.8	278.6	277.4	275.9	274.0	272.0	270.0	268.1	266.3
67.5°	240.5	239.5	238.6	237.6	236.7	235.4	233.6	231.9	230.1	228.3	227.0
70°	214.5	213.7	212.9	212.2	211.4	210.1	208.3	206.6	204.8	203.0	201.6
72.5°	187.8	186.9	186.1	185.4	184.6	183.7	182.5	181.4	180.3	179.1	177.8
75°	147.7	147.2	146.9	146.5	146.1	145.4	144.5	143.4	142.5	141.5	140.3
77.5°	111.8	111.2	110.5	109.8	109.2	108.7	108.2	107.8	107.5	107.0	106.5
80°	87.9	87.7	87.5	87.3	87.1	86.8	86.4	86.0	85.7	85.2	84.6
82.5°	65.4	65.3	65.3	65.3	65.3	65.1	64.8	64.7	64.4	64.1	63.5
85°	36.1	35.8	35.6	35.5	35.2	35.0	34.9	34.7	34.4	34.3	33.7
87.5°	12.8	13.2	13.6	13.7	13.8	14.1	14.8	15.8	16.8	16.6	16.0
90°	1.0	4.0	8.0	10.0	12.0	15.0	20.0	27.0	33.0	34.0	33.0
92.5°	12.2	17.6	24.8	29.2	36.0	45.4	68.0	99.8	128.2	130.0	109.9
95°	35.0	39.0	49.0	58.0	74.0	98.0	144.0	231.0	347.1	392.1	343.1
97.5°	57.0	62.4	73.0	86.6	105.0	132.2	190.0	311.3	504.1	669.3	702.1
100°	77.0	80.0	89.0	105.0	125.0	153.0	206.0	328.0	544.1	790.1	934.2
102.5°	95.4	97.6	106.6	122.6	143.4	171.4	220.4	328.9	528.9	794.2	1020.6
105°	122.0	126.1	133.0	148.0	170.0	198.0	245.0	334.1	499.1	741.1	1007.2
107.5°	150.8	154.0	160.8	174.6	196.5	224.6	270.3	347.8	484.3	684.3	919.4
110°	170.0	174.0	180.0	193.0	214.0	243.1	287.1	359.0	481.1	657.1	864.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	187.6	191.7	198.5	210.6	230.8	260.6	303.1	371.1	481.9	639.6	825.8
115°	215.1	220.1	226.0	238.1	258.0	285.1	328.0	389.1	486.1	620.1	778.2
117.5°	243.5	247.5	253.5	264.1	283.3	311.3	351.0	408.3	493.3	610.7	748.1
120°	261.1	265.0	271.0	280.1	300.1	328.0	367.0	421.1	498.1	605.1	732.1
122.5°	277.8	281.0	287.1	296.9	316.8	345.7	382.3	432.3	503.7	601.9	718.5
125°	300.1	303.1	309.1	321.1	341.0	369.1	405.1	450.1	512.1	596.2	699.1
127.5°	317.6	321.7	330.1	343.3	362.5	391.2	426.3	466.7	520.7	592.7	681.1
130°	328.0	332.1	342.1	356.1	376.1	404.1	439.1	477.1	527.1	591.1	669.2
132.5°	337.7	342.5	353.3	368.1	388.9	416.9	450.3	487.5	533.5	590.3	659.5
135°	352.1	356.1	368.1	383.1	406.0	434.1	466.1	501.1	541.1	589.1	646.1
137.5°	365.7	370.5	382.5	398.5	421.3	447.3	478.9	511.5	547.9	588.9	636.7
140°	376.1	380.0	392.1	408.1	430.1	456.1	486.1	517.1	551.1	588.1	631.1
142.5°	386.5	389.7	400.9	416.9	438.1	462.5	491.7	521.9	553.5	588.1	625.5
145°	402.1	406.0	416.1	431.1	451.1	473.1	500.1	528.1	556.1	586.1	618.1
147.5°	418.9	421.9	431.4	445.3	461.9	481.5	506.9	531.5	556.9	582.6	610.5
150°	430.1	433.1	441.1	454.1	469.1	487.1	510.1	533.1	556.1	580.1	604.1
152.5°	441.3	442.7	450.6	462.1	476.3	492.7	513.3	533.9	554.5	576.1	598.5
155°	457.1	458.1	464.1	475.1	486.1	501.1	518.1	535.1	552.1	569.1	588.1
157.5°	470.3	471.3	476.1	485.7	494.5	507.1	521.5	535.1	547.5	561.9	578.3
160°	479.1	480.1	484.1	492.1	500.1	511.1	523.1	535.1	545.1	557.2	571.1
162.5°	487.9	487.3	491.3	497.7	504.9	513.5	523.9	534.3	542.7	553.1	564.7
165°	498.1	497.1	499.1	505.1	510.1	516.1	525.1	532.1	538.1	545.1	554.1
167.5°	506.5	505.3	507.1	510.9	514.5	518.3	524.9	530.7	533.5	538.1	543.7
170°	512.1	510.1	511.1	514.1	516.1	519.1	524.1	529.1	531.1	534.1	538.1
172.5°	515.3	514.1	513.5	516.5	517.7	519.9	523.3	526.7	527.9	529.3	532.5
175°	519.1	518.1	517.1	519.1	519.1	520.1	522.1	524.1	523.1	524.1	525.1
177.5°	520.9	519.3	518.5	520.1	520.1	520.1	520.9	522.5	520.9	520.1	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	914.1	914.1	914.1	914.1	914.1	914.1	914.1	914.1
2.5°	910.2	911.8	913.3	914.0	913.6	913.3	913.0	912.7
5°	904.0	905.6	907.1	907.8	907.4	907.0	906.6	906.2
7.5°	893.9	895.4	897.0	897.5	897.1	896.7	896.3	895.9
10°	884.7	886.3	887.9	888.3	887.8	887.2	886.6	886.0
12.5°	873.9	875.0	876.2	876.4	876.0	875.6	875.2	874.8
15°	855.1	855.8	856.6	856.5	855.5	854.5	853.6	852.6
17.5°	832.6	833.4	834.4	834.4	833.4	832.5	831.6	830.6
20°	815.1	815.7	816.2	816.1	815.4	814.6	813.8	813.0
22.5°	796.6	796.7	796.8	796.6	796.2	795.7	795.2	794.8
25°	766.4	766.7	767.2	767.2	766.7	766.4	765.9	765.6
27.5°	736.6	736.1	735.5	734.7	733.7	732.8	731.8	730.9
30°	713.4	712.8	712.2	711.5	710.8	710.0	709.2	708.4
32.5°	690.7	689.7	688.5	687.7	686.9	686.1	685.3	684.5
35°	654.3	653.1	651.9	650.8	649.9	648.8	647.9	646.9
37.5°	617.7	616.2	614.8	613.5	612.6	611.7	610.8	609.8
40°	592.5	590.6	588.9	587.6	586.9	586.1	585.3	584.5
42.5°	567.5	565.6	563.7	562.1	561.0	560.0	558.9	557.8
45°	529.3	527.1	525.0	523.5	522.7	521.9	521.2	520.3
47.5°	489.5	487.2	484.9	483.2	482.1	481.0	479.8	478.7
50°	463.9	461.2	458.4	456.6	455.6	454.6	453.7	452.6
52.5°	437.4	435.1	432.9	431.1	429.8	428.5	427.2	425.9
55°	397.9	395.5	393.2	391.5	390.5	389.6	388.6	387.6
57.5°	356.8	354.5	352.2	350.7	349.9	349.2	348.4	347.7
60°	329.7	327.5	325.4	324.1	323.5	322.9	322.3	321.7
62.5°	304.0	302.0	300.1	298.7	297.9	297.1	296.4	295.7
65°	264.6	262.8	261.1	259.7	258.7	257.7	256.8	255.8
67.5°	225.6	224.3	222.9	221.8	221.0	220.2	219.5	218.7
70°	200.3	199.0	197.6	196.5	195.7	194.9	194.2	193.4
72.5°	176.4	175.0	173.7	172.6	172.0	171.4	170.8	170.1
75°	139.1	138.0	136.8	136.5	136.8	137.2	137.6	138.0
77.5°	105.9	105.3	104.7	104.2	103.6	103.1	102.5	101.9
80°	84.1	83.5	82.9	82.4	82.1	81.6	81.3	80.8
82.5°	62.7	61.9	61.2	60.8	60.7	60.6	60.5	60.4
85°	33.1	32.5	31.9	31.5	31.3	31.2	31.0	30.7
87.5°	15.3	14.5	14.4	14.3	14.1	13.9	13.8	13.6
90°	32.0	30.0	32.0	33.0	33.0	33.0	33.0	33.0
92.5°	87.2	74.8	66.4	60.2	59.4	56.2	57.0	55.4
95°	262.1	201.0	159.0	137.0	124.0	116.1	113.0	114.0
97.5°	611.5	500.3	392.1	319.9	272.1	247.5	232.8	224.5
100°	913.2	789.2	652.1	531.1	448.1	405.1	376.1	358.1
102.5°	1110.9	1082.8	982.6	854.4	764.1	690.8	654.5	630.2
105°	1215.2	1328.3	1341.3	1308.3	1246.2	1184.2	1141.3	1127.2
107.5°	1140.1	1310.3	1414.3	1462.7	1470.5	1467.1	1458.4	1439.9
110°	1075.2	1254.2	1382.2	1464.3	1507.3	1526.3	1535.3	1534.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1016.0	1187.8	1324.6	1418.7	1478.5	1510.3	1527.3	1532.7
115°	943.2	1097.3	1228.2	1331.3	1402.3	1448.3	1474.3	1483.3
117.5°	888.4	1023.6	1142.5	1239.1	1311.5	1360.0	1387.5	1395.1
120°	861.2	985.2	1091.2	1182.2	1252.2	1299.2	1328.3	1338.3
122.5°	839.6	953.2	1053.6	1135.8	1198.6	1244.8	1270.7	1279.0
125°	808.1	911.2	999.2	1074.2	1132.2	1170.3	1195.2	1203.2
127.5°	777.1	870.4	953.4	1022.6	1073.2	1108.8	1130.4	1136.9
130°	757.2	843.2	922.2	988.2	1037.2	1071.3	1091.2	1099.2
132.5°	738.0	817.6	890.2	952.2	1000.4	1034.4	1052.8	1060.0
135°	711.1	777.1	843.2	899.1	942.2	975.2	993.2	997.2
137.5°	689.7	744.9	797.4	846.2	885.4	913.8	929.6	935.6
140°	676.1	724.2	770.2	814.2	846.2	872.2	887.2	893.2
142.5°	665.0	705.8	745.4	782.1	812.5	836.2	849.5	850.8
145°	649.1	682.2	713.2	742.2	766.1	783.2	793.2	796.2
147.5°	637.0	663.0	687.2	708.3	728.1	741.8	748.6	750.4
150°	628.1	650.1	671.1	689.1	704.1	716.2	722.1	723.2
152.5°	619.3	639.7	657.5	673.1	684.9	695.3	699.7	699.9
155°	607.1	623.1	638.1	649.1	660.1	667.1	671.1	669.2
157.5°	592.9	606.3	618.9	627.5	635.3	641.1	642.9	642.9
160°	584.1	595.1	606.1	613.1	620.1	625.1	626.1	626.1
162.5°	575.3	584.7	594.1	599.5	606.5	609.9	610.9	610.1
165°	562.1	569.1	576.1	580.1	584.1	588.1	588.1	587.1
167.5°	549.5	554.9	559.7	563.4	565.1	567.3	567.1	565.9
170°	543.1	546.1	550.1	552.1	553.1	556.1	555.1	553.1
172.5°	535.9	538.1	541.3	542.5	543.5	544.9	543.9	542.7
175°	528.1	529.1	530.1	531.1	531.1	532.1	531.1	529.1
177.5°	522.5	522.5	523.3	523.3	523.3	523.3	522.5	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1

(END OF REPORT)