

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: P331704-940

Luminaire Tested: **SA2XXRDIP-C675D1080U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331704-940  
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-C675D1080U940-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 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: 5822.0 lumens  
Efficiency: N/A  
Efficacy: 102.3 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

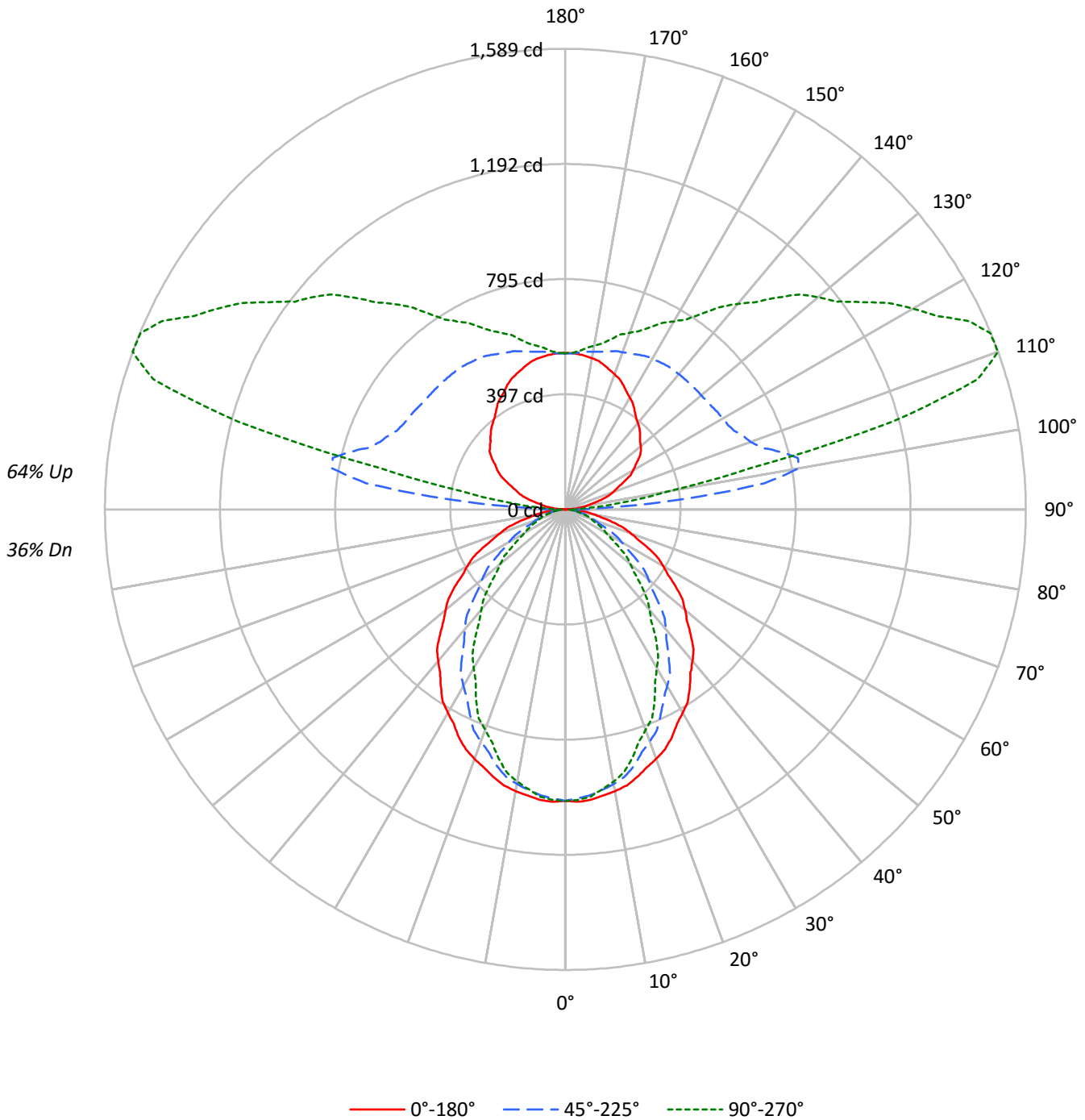
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### 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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	36				
1	95	91	87	84	86	82	79	76	66	64	62	52	50	49	38	38	37	31				
2	87	80	74	69	78	72	67	63	59	55	52	46	44	42	34	33	32	26				
3	79	70	63	58	71	64	58	53	52	48	44	41	38	36	31	29	27	23				
4	73	62	55	49	65	57	50	45	46	42	38	37	33	31	28	25	24	20				
5	67	56	48	42	60	51	44	39	42	37	33	33	29	27	25	23	21	17				
6	61	50	42	37	56	46	39	34	37	32	29	30	26	24	23	20	19	15				
7	57	45	37	32	51	41	35	30	34	29	25	27	24	21	21	18	17	14				
8	53	41	33	28	48	38	31	26	31	26	23	25	21	19	19	17	15	12				
9	49	37	30	25	44	34	28	24	28	24	20	23	19	17	18	15	14	11				
10	46	34	27	23	42	31	25	21	26	21	18	21	18	15	17	14	12	10				

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

	0°	45°	90°
0°	16239	16239	16239
5°	16302	16037	16126
10°	16179	15775	15641
15°	15992	15308	14867
20°	15735	14639	13904
25°	15471	13881	12975
30°	15105	13103	11779
35°	14747	12254	10730
40°	14389	11377	9516
45°	13967	10392	8416
50°	13536	9399	7340
55°	13095	8329	6303
60°	12581	7201	5231
65°	12000	6052	4768
70°	11301	4985	4381
75°	10449	4548	4086
80°	9224	4063	3719
85°	7243	3205	3205



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.2	1.6
10°-20°	258.5	4.4
20°-30°	363.0	6.2
30°-40°	395.9	6.8
40°-50°	364.0	6.3
50°-60°	285.9	4.9
60°-70°	186.4	3.2
70°-80°	96.1	1.7
80°-90°	29.8	0.5
90°-100°	215.4	3.7
100°-110°	730.9	12.6
110°-120°	776.4	13.3
120°-130°	639.2	11.0
130°-140°	513.3	8.8
140°-150°	387.9	6.7
150°-160°	272.6	4.7
160°-170°	160.5	2.8
170°-180°	52.2	0.9
0°-30°	715.7	12.3
0°-40°	1111.6	19.1
0°-60°	1761.4	30.3
0°-90°	2073.7	35.6
90°-120°	1722.7	29.6
90°-150°	3263.0	56.0
90°-180°	3748.0	64.4
0°-180°	5822.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	1006	1001	990	997	995	95
15°	957	946	916	899	889	269
25°	868	838	779	743	728	399
35°	748	700	622	566	544	468
45°	612	549	455	393	369	472
55°	465	393	296	243	224	416
65°	314	240	158	129	125	311
75°	168	106	73	67	66	177
85°	39	21	17	17	17	46
90°	1	14	35	34	34	4
95°	36	89	406	153	118	38
105°	126	191	768	1372	1167	134
115°	223	281	642	1325	1536	221
125°	311	368	617	1074	1246	276
135°	365	435	610	902	1033	282
145°	416	479	607	754	825	261
155°	473	511	589	667	693	218
165°	516	531	564	599	608	145
175°	538	538	543	550	548	51
180°	539	539	539	539	539	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1009.5	1008.7	1007.9	1007.1	1006.3	1005.0	1003.2	1001.4	999.7	997.9	999.5
5°	1005.8	1004.9	1003.9	1002.8	1001.8	1000.1	997.4	994.8	992.1	989.5	991.3
7.5°	995.5	994.3	993.0	991.8	990.5	988.3	985.3	982.2	979.1	976.1	976.5
10°	986.8	985.3	983.9	982.5	981.1	978.4	974.3	970.3	966.3	962.2	961.6
12.5°	975.8	974.1	972.3	970.6	968.8	965.5	960.3	955.1	949.9	944.7	943.6
15°	956.7	954.5	952.3	950.0	947.8	943.3	936.4	929.5	922.7	915.8	912.0
17.5°	933.3	929.9	926.5	923.0	919.6	913.6	904.7	895.9	887.1	878.2	873.7
20°	915.8	911.7	907.7	903.7	899.6	892.5	882.3	872.3	862.2	852.0	846.9
22.5°	896.8	892.3	887.8	883.2	878.7	870.8	859.3	847.9	836.5	825.1	818.6
25°	868.4	861.9	855.5	849.0	842.6	832.6	819.3	805.9	792.6	779.2	770.9
27.5°	834.2	827.2	820.1	813.1	806.0	795.0	780.0	764.9	749.8	734.8	725.1
30°	810.2	802.5	794.8	787.1	779.4	767.5	751.3	735.1	718.9	702.8	692.4
32.5°	786.8	777.8	768.9	759.9	750.9	738.2	721.7	705.2	688.7	672.2	660.4
35°	748.2	738.0	727.6	717.3	707.0	692.9	675.1	657.4	639.5	621.7	608.9
37.5°	709.7	698.3	687.0	675.6	664.3	649.2	630.3	611.3	592.3	573.3	559.3
40°	682.7	670.6	658.4	646.3	634.2	618.3	598.7	579.1	559.5	539.8	525.5
42.5°	655.1	642.3	629.5	616.7	604.0	587.4	567.1	546.9	526.6	506.3	491.4
45°	611.7	598.2	584.6	571.1	557.5	540.1	518.9	497.7	476.4	455.1	440.8
47.5°	569.4	555.1	540.7	526.4	512.0	493.9	472.0	450.0	428.1	406.2	391.9
50°	538.9	524.5	510.1	495.8	481.4	463.2	440.9	418.7	396.4	374.2	360.2
52.5°	509.1	494.0	479.0	464.0	449.0	430.6	408.8	387.1	365.3	343.6	330.1
55°	465.2	449.4	433.6	417.9	402.1	383.3	361.4	339.6	317.7	295.9	283.7
57.5°	420.2	404.0	387.8	371.7	355.4	336.9	315.8	294.9	273.8	252.9	241.7
60°	389.6	373.4	357.2	341.1	324.9	306.4	285.5	264.7	243.9	223.0	212.7
62.5°	359.7	343.6	327.3	311.2	295.0	277.0	257.2	237.3	217.4	197.5	187.7
65°	314.1	297.7	281.2	264.9	248.5	231.2	213.0	194.8	176.6	158.4	151.5
67.5°	270.0	253.7	237.5	221.2	204.9	188.6	172.2	155.9	139.5	123.1	119.9
70°	239.4	223.6	207.9	192.1	176.3	161.4	147.5	133.5	119.6	105.6	103.5
72.5°	210.3	195.1	180.0	164.9	149.7	136.6	125.4	114.1	103.0	91.8	90.1
75°	167.5	153.4	139.2	125.0	110.8	100.3	93.5	86.6	79.7	72.9	71.4
77.5°	125.5	113.0	100.6	88.2	75.8	67.9	64.6	61.3	58.0	54.7	53.8
80°	99.2	88.9	78.6	68.3	58.0	51.8	49.8	47.7	45.7	43.7	42.9
82.5°	75.2	67.1	59.1	51.0	43.0	38.3	36.9	35.5	34.2	32.8	32.3
85°	39.1	34.9	30.7	26.4	22.1	19.7	19.1	18.5	17.9	17.3	17.3
87.5°	11.9	11.1	10.7	9.8	8.9	8.9	10.0	11.4	12.7	12.8	12.5
90°	1.1	4.1	8.3	10.3	12.4	15.5	20.7	28.0	34.2	35.2	34.2
92.5°	12.7	18.2	25.7	30.2	37.3	47.0	70.4	103.3	132.8	134.6	113.8
95°	36.3	40.4	50.7	60.1	76.7	101.5	149.2	239.2	359.4	406.1	355.3
97.5°	59.0	64.6	75.6	89.7	108.8	137.0	196.8	322.4	522.1	693.2	727.2
100°	79.7	82.8	92.2	108.8	129.5	158.5	213.4	339.7	563.5	818.3	967.5
102.5°	98.8	101.1	110.4	127.0	148.6	177.5	228.3	340.6	547.8	822.5	1057.0
105°	126.4	130.5	137.8	153.3	176.1	205.1	253.8	346.0	516.9	767.6	1043.1
107.5°	156.2	159.5	166.6	180.8	203.5	232.6	279.9	360.3	501.6	708.7	952.2
110°	176.1	180.2	186.5	199.9	221.7	251.7	297.3	371.8	498.3	680.6	895.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	194.3	198.5	205.5	218.1	239.1	269.9	313.9	384.3	499.1	662.4	855.2
115°	222.7	227.9	234.1	246.6	267.2	295.2	339.7	403.0	503.5	642.2	805.9
117.5°	252.2	256.3	262.5	273.5	293.4	322.4	363.6	422.8	510.9	632.5	774.8
120°	270.4	274.5	280.7	290.1	310.8	339.7	380.1	436.1	515.9	626.7	758.2
122.5°	287.8	291.1	297.3	307.5	328.1	358.0	395.9	447.7	521.7	623.4	744.1
125°	310.8	313.9	320.1	332.5	353.2	382.3	419.5	466.2	530.4	617.4	724.1
127.5°	329.0	333.1	341.9	355.5	375.4	405.2	441.5	483.3	539.3	613.9	705.4
130°	339.7	343.9	354.3	368.8	389.5	418.5	454.8	494.1	545.9	612.2	693.0
132.5°	349.7	354.7	365.9	381.2	402.8	431.8	466.4	504.9	552.5	611.4	683.1
135°	364.6	368.8	381.2	396.7	420.5	449.6	482.7	519.0	560.4	610.1	669.1
137.5°	378.7	383.7	396.1	412.7	436.3	463.2	496.0	529.8	567.5	609.9	659.4
140°	389.5	393.6	406.1	422.7	445.4	472.3	503.5	535.6	570.8	609.1	653.6
142.5°	400.3	403.6	415.2	431.8	453.7	479.0	509.3	540.6	573.3	609.1	647.8
145°	416.4	420.5	431.0	446.5	467.2	490.0	517.9	547.0	576.0	607.0	640.2
147.5°	433.8	436.9	446.8	461.2	478.4	498.6	525.0	550.5	576.8	603.3	632.3
150°	445.4	448.5	456.8	470.3	485.8	504.4	528.3	552.1	576.0	600.8	625.6
152.5°	457.0	458.5	466.7	478.6	493.3	510.2	531.6	552.9	574.3	596.6	619.8
155°	473.4	474.4	480.6	492.0	503.5	519.0	536.5	554.2	571.8	589.4	609.1
157.5°	487.1	488.1	493.1	503.0	512.1	525.2	540.1	554.2	567.0	581.9	599.0
160°	496.1	497.2	501.3	509.6	517.9	529.3	541.8	554.2	564.5	577.0	591.5
162.5°	505.3	504.7	508.8	515.4	522.9	531.8	542.6	553.4	562.0	572.8	584.9
165°	515.9	514.9	516.9	523.1	528.3	534.5	543.9	551.1	557.3	564.5	573.9
167.5°	524.6	523.3	525.2	529.1	532.9	536.8	543.6	549.7	552.5	557.3	563.1
170°	530.4	528.3	529.3	532.4	534.5	537.6	542.8	548.0	550.0	553.1	557.3
172.5°	533.7	532.4	531.8	534.9	536.2	538.4	542.0	545.5	546.7	548.2	551.5
175°	537.6	536.5	535.6	537.6	537.6	538.7	540.7	542.8	541.8	542.8	543.9
177.5°	539.5	537.8	537.0	538.7	538.7	538.7	539.5	541.2	539.5	538.7	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1001.1	1002.7	1004.3	1005.0	1004.7	1004.3	1004.1	1003.7
5°	993.1	995.0	996.8	997.4	996.8	996.1	995.6	995.0
7.5°	977.0	977.6	978.1	977.9	976.8	975.8	974.7	973.7
10°	961.0	960.4	959.7	958.9	957.6	956.4	955.2	954.0
12.5°	942.5	941.5	940.3	938.8	936.7	934.8	932.7	930.7
15°	908.1	904.2	900.4	897.4	895.5	893.4	891.4	889.4
17.5°	869.2	864.5	860.0	856.0	852.5	849.0	845.5	842.0
20°	842.0	836.9	831.8	827.1	822.6	818.1	813.7	809.2
22.5°	812.1	805.6	799.1	794.2	790.8	787.5	784.2	780.9
25°	762.6	754.3	746.0	740.4	737.4	734.3	731.3	728.3
27.5°	715.4	705.8	696.2	688.8	684.0	679.2	674.4	669.6
30°	682.2	671.8	661.5	653.6	648.1	642.7	637.2	631.8
32.5°	648.6	636.9	625.1	616.6	611.4	606.4	601.2	596.1
35°	596.3	583.5	570.8	562.1	557.7	553.2	548.8	544.4
37.5°	545.2	531.2	517.2	507.6	502.5	497.4	492.3	487.2
40°	511.0	496.7	482.3	472.5	467.3	462.0	456.7	451.5
42.5°	476.6	461.7	446.9	436.9	431.9	426.8	421.7	416.5
45°	426.4	412.1	397.7	388.1	383.3	378.4	373.5	368.6
47.5°	377.6	363.4	349.0	339.7	335.3	330.9	326.5	322.1
50°	346.3	332.3	318.3	309.2	305.0	300.7	296.5	292.2
52.5°	316.6	303.1	289.6	281.0	277.1	273.1	269.2	265.3
55°	271.6	259.4	247.3	239.3	235.5	231.6	227.7	223.9
57.5°	230.6	219.5	208.4	201.2	198.0	194.7	191.5	188.2
60°	202.4	192.1	181.7	175.0	171.7	168.5	165.2	162.0
62.5°	177.9	168.0	158.2	152.3	150.3	148.5	146.5	144.5
65°	144.6	137.8	130.9	127.2	126.5	125.9	125.3	124.8
67.5°	116.7	113.6	110.5	108.5	107.9	107.3	106.6	105.9
70°	101.6	99.5	97.5	96.1	95.2	94.4	93.6	92.8
72.5°	88.4	86.7	85.0	83.9	83.4	82.9	82.4	81.9
75°	70.0	68.6	67.1	66.3	66.2	66.0	65.7	65.5
77.5°	53.0	52.2	51.4	50.8	50.5	50.2	49.8	49.5
80°	42.1	41.3	40.5	40.0	40.0	40.0	40.0	40.0
82.5°	31.8	31.3	30.9	30.6	30.6	30.6	30.6	30.6
85°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
87.5°	12.1	11.6	11.8	11.9	11.9	11.9	11.9	11.9
90°	33.2	31.1	33.2	34.2	34.2	34.2	34.2	34.2
92.5°	90.3	77.5	68.8	62.3	61.5	58.2	59.0	57.4
95°	271.4	208.2	164.7	141.9	128.4	120.2	117.1	118.1
97.5°	633.3	518.2	406.1	331.3	281.8	256.3	241.1	232.5
100°	945.7	817.3	675.4	550.0	464.0	419.5	389.5	370.9
102.5°	1150.5	1121.4	1017.6	884.8	791.4	715.4	677.9	652.6
105°	1258.6	1375.6	1389.1	1355.0	1290.7	1226.5	1182.0	1167.4
107.5°	1180.7	1357.0	1464.7	1514.8	1523.0	1519.4	1510.5	1491.2
110°	1113.6	1299.0	1431.6	1516.5	1561.0	1580.7	1590.1	1589.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1052.2	1230.2	1371.9	1469.3	1531.2	1564.1	1581.8	1587.3
115°	976.9	1136.4	1272.0	1378.8	1452.3	1499.9	1526.9	1536.2
117.5°	920.1	1060.2	1183.2	1283.3	1358.3	1408.5	1437.0	1444.8
120°	891.9	1020.3	1130.2	1224.4	1296.9	1345.6	1375.6	1386.0
122.5°	869.5	987.2	1091.2	1176.3	1241.4	1289.2	1316.0	1324.6
125°	837.0	943.7	1034.8	1112.5	1172.6	1212.0	1237.9	1246.2
127.5°	804.9	901.4	987.4	1059.1	1111.5	1148.3	1170.7	1177.4
130°	784.2	873.3	955.1	1023.4	1074.2	1109.5	1130.2	1138.4
132.5°	764.3	846.8	921.9	986.1	1036.1	1071.3	1090.4	1097.8
135°	736.5	804.9	873.3	931.2	975.8	1010.0	1028.6	1032.8
137.5°	714.3	771.5	825.8	876.4	916.9	946.4	962.8	968.9
140°	700.3	750.0	797.6	843.2	876.4	903.3	918.8	925.1
142.5°	688.7	730.9	772.0	810.0	841.5	866.0	879.9	881.1
145°	672.3	706.5	738.6	768.7	793.4	811.1	821.4	824.6
147.5°	659.7	686.6	711.7	733.6	754.1	768.2	775.3	777.1
150°	650.5	673.3	695.1	713.7	729.2	741.7	747.9	748.9
152.5°	641.4	662.5	681.0	697.1	709.4	720.1	724.7	724.9
155°	628.7	645.3	660.8	672.3	683.7	690.9	695.1	693.0
157.5°	614.0	627.9	641.0	649.9	658.0	664.0	665.8	665.8
160°	604.9	616.4	627.8	635.0	642.2	647.4	648.5	648.5
162.5°	595.8	605.6	615.3	620.9	628.1	631.7	632.7	631.9
165°	582.2	589.4	596.6	600.8	604.9	609.1	609.1	608.1
167.5°	569.1	574.7	579.7	583.4	585.2	587.5	587.4	586.1
170°	562.5	565.6	569.7	571.8	572.8	576.0	574.9	572.8
172.5°	555.0	557.3	560.6	561.9	562.9	564.4	563.3	562.0
175°	547.0	548.0	549.0	550.0	550.0	551.1	550.0	548.0
177.5°	541.2	541.2	542.0	542.0	542.0	542.0	541.2	539.5
180°	538.7	538.7	538.7	538.7	538.7	538.7	538.7	538.7

(END OF REPORT)