

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: P331704-930

Luminaire Tested: **SA2XXRDIP-C675D1080U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331704-930  
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: SA2XXRDIP-C675D1080U930-4F0-1E-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: 5323.1 lumens  
Efficiency: N/A  
Efficacy: 93.6 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

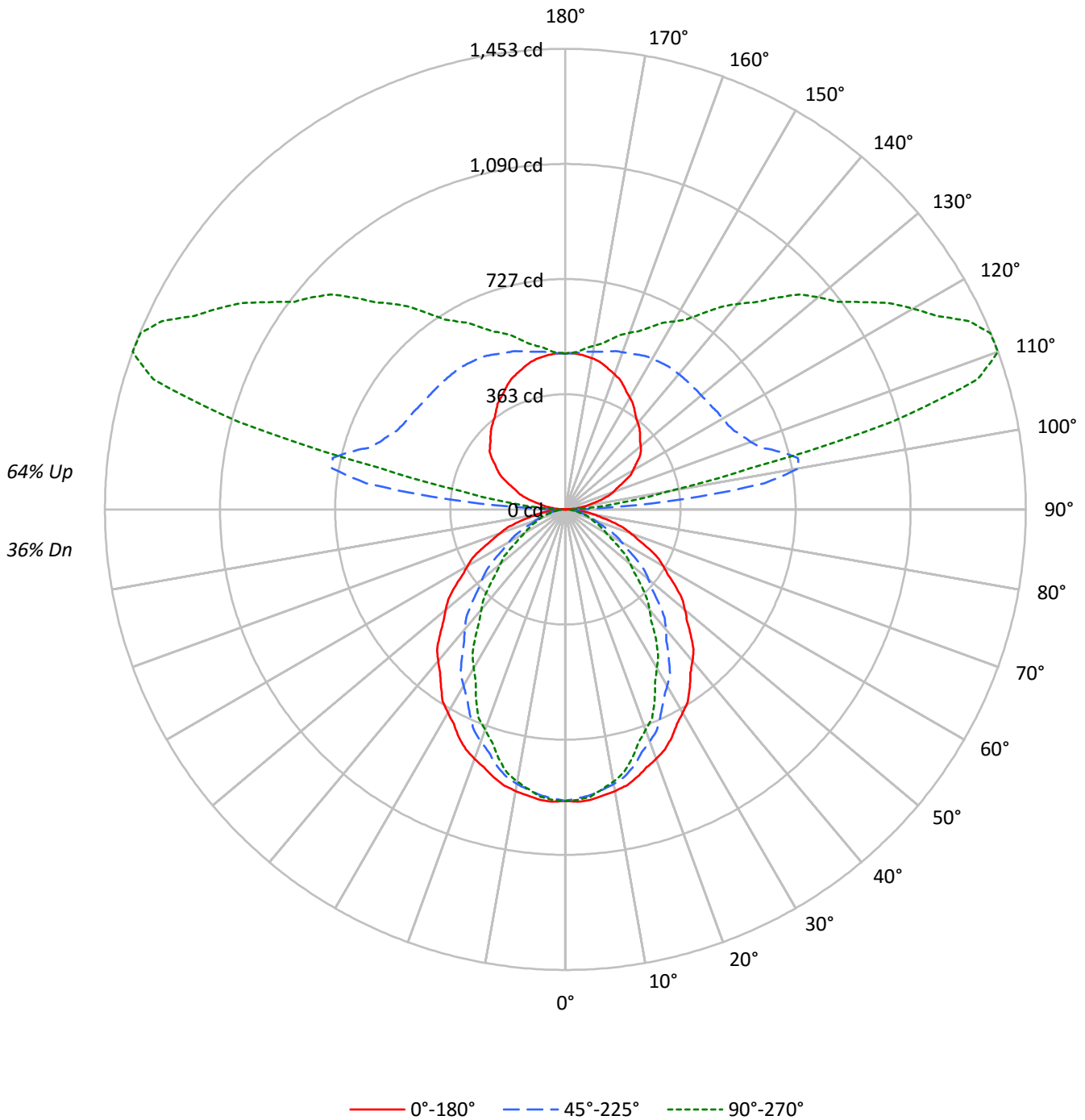
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	14849	14849	14849
5°	14906	14663	14744
10°	14791	14423	14300
15°	14621	13996	13593
20°	14387	13385	12713
25°	14145	12691	11863
30°	13811	11979	10769
35°	13484	11203	9810
40°	13156	10404	8701
45°	12771	9501	7695
50°	12376	8593	6712
55°	11972	7614	5762
60°	11502	6584	4782
65°	10968	5532	4359
70°	10334	4556	4008
75°	9551	4155	3737
80°	8433	3710	3403
85°	6632	2927	2927



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.1	1.6
10°-20°	236.4	4.4
20°-30°	331.9	6.2
30°-40°	361.9	6.8
40°-50°	332.8	6.3
50°-60°	261.4	4.9
60°-70°	170.4	3.2
70°-80°	87.9	1.7
80°-90°	27.2	0.5
90°-100°	196.9	3.7
100°-110°	668.2	12.6
110°-120°	709.9	13.3
120°-130°	584.4	11.0
130°-140°	469.3	8.8
140°-150°	354.6	6.7
150°-160°	249.2	4.7
160°-170°	146.7	2.8
170°-180°	47.8	0.9
0°-30°	654.4	12.3
0°-40°	1016.3	19.1
0°-60°	1610.5	30.3
0°-90°	1896.0	35.6
90°-120°	1575.1	29.6
90°-150°	2983.4	56.0
90°-180°	3427.0	64.4
0°-180°	5323.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	920	920	920	920	920	
5°	920	915	905	912	910	87
15°	875	864	837	822	813	246
25°	794	766	712	680	666	365
35°	684	640	568	518	498	428
45°	559	502	416	359	337	432
55°	425	359	270	222	205	380
65°	287	219	145	118	114	285
75°	153	96	67	61	60	162
85°	36	19	16	16	16	42
90°	1	13	32	31	31	3
95°	33	81	371	140	108	35
105°	116	174	702	1254	1067	123
115°	204	257	587	1212	1405	202
125°	284	336	564	982	1139	252
135°	333	398	558	825	944	258
145°	381	438	555	689	754	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°	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7
2.5°	923.0	922.3	921.5	920.8	920.1	918.8	917.2	915.6	914.0	912.4	913.9
5°	919.7	918.8	917.9	916.9	916.0	914.4	911.9	909.5	907.1	904.7	906.4
7.5°	910.2	909.1	907.9	906.8	905.6	903.6	900.8	898.1	895.2	892.4	892.8
10°	902.2	900.9	899.6	898.3	897.0	894.5	890.8	887.1	883.5	879.7	879.2
12.5°	892.2	890.6	889.0	887.5	885.8	882.7	878.0	873.3	868.5	863.7	862.7
15°	874.7	872.7	870.7	868.6	866.6	862.4	856.1	849.9	843.6	837.3	833.8
17.5°	853.3	850.2	847.1	843.9	840.8	835.3	827.2	819.1	811.1	803.0	798.8
20°	837.3	833.6	829.9	826.2	822.5	816.0	806.7	797.5	788.3	779.0	774.4
22.5°	819.9	815.9	811.7	807.6	803.4	796.1	785.7	775.3	764.8	754.4	748.4
25°	794.0	788.1	782.2	776.2	770.4	761.2	749.1	736.9	724.6	712.4	704.8
27.5°	762.7	756.3	749.8	743.4	736.9	726.8	713.1	699.4	685.6	671.8	663.0
30°	740.8	733.7	726.7	719.7	712.7	701.7	686.9	672.1	657.3	642.5	633.1
32.5°	719.4	711.2	703.0	694.8	686.6	674.9	659.8	644.7	629.7	614.6	603.8
35°	684.1	674.7	665.3	655.8	646.5	633.6	617.3	601.0	584.7	568.4	556.8
37.5°	648.9	638.5	628.1	617.8	607.4	593.5	576.3	558.9	541.5	524.2	511.4
40°	624.2	613.1	602.0	590.9	579.8	565.3	547.4	529.5	511.5	493.6	480.5
42.5°	598.9	587.3	575.5	563.9	552.2	537.0	518.5	500.0	481.4	462.9	449.3
45°	559.3	546.9	534.5	522.1	509.7	493.8	474.4	455.0	435.5	416.1	403.0
47.5°	520.7	507.5	494.4	481.3	468.1	451.6	431.5	411.5	391.4	371.4	358.3
50°	492.7	479.6	466.4	453.3	440.2	423.5	403.1	382.8	362.4	342.1	329.3
52.5°	465.5	451.7	438.0	424.3	410.5	393.7	373.8	353.9	334.0	314.1	301.8
55°	425.3	410.9	396.5	382.0	367.6	350.4	330.4	310.5	290.5	270.5	259.4
57.5°	384.2	369.4	354.6	339.8	325.0	308.0	288.8	269.6	250.4	231.2	221.0
60°	356.2	341.4	326.6	311.9	297.0	280.1	261.1	242.0	223.0	203.9	194.4
62.5°	328.9	314.1	299.3	284.5	269.7	253.2	235.1	217.0	198.8	180.6	171.6
65°	287.1	272.1	257.1	242.2	227.2	211.4	194.8	178.1	161.4	144.8	138.5
67.5°	246.9	232.0	217.1	202.3	187.4	172.4	157.4	142.5	127.5	112.5	109.7
70°	218.9	204.5	190.0	175.6	161.2	147.6	134.9	122.1	109.3	96.5	94.7
72.5°	192.2	178.4	164.6	150.7	136.9	124.9	114.6	104.4	94.2	83.9	82.3
75°	153.1	140.2	127.3	114.3	101.3	91.7	85.4	79.2	72.9	66.6	65.3
77.5°	114.7	103.3	92.0	80.6	69.3	62.0	59.0	56.0	53.0	50.0	49.2
80°	90.7	81.3	71.8	62.5	53.0	47.4	45.5	43.6	41.8	39.9	39.2
82.5°	68.7	61.4	54.1	46.6	39.3	35.0	33.8	32.4	31.2	30.0	29.5
85°	35.8	31.9	28.0	24.1	20.2	18.0	17.4	17.0	16.4	15.8	15.8
87.5°	10.8	10.2	9.8	9.0	8.2	8.2	9.1	10.4	11.6	11.7	11.4
90°	1.0	3.8	7.6	9.5	11.3	14.2	18.9	25.6	31.2	32.2	31.2
92.5°	11.6	16.6	23.5	27.6	34.1	43.0	64.4	94.5	121.4	123.1	104.0
95°	33.2	36.9	46.4	55.0	70.1	92.8	136.4	218.7	328.6	371.3	324.9
97.5°	54.0	59.1	69.1	82.0	99.5	125.2	179.9	294.7	477.4	633.8	664.9
100°	72.9	75.7	84.3	99.5	118.4	144.9	195.1	310.6	515.2	748.2	884.6
102.5°	90.3	92.5	100.9	116.1	135.8	162.3	208.7	311.4	500.8	752.0	966.5
105°	115.5	119.4	126.0	140.1	161.0	187.5	232.0	316.3	472.6	701.8	953.7
107.5°	142.8	145.9	152.3	165.3	186.1	212.7	255.9	329.4	458.6	648.0	870.6
110°	161.0	164.8	170.5	182.8	202.7	230.2	271.8	340.0	455.6	622.2	818.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.7	181.5	187.9	199.4	218.6	246.8	287.0	351.4	456.3	605.6	782.0
115°	203.7	208.4	214.0	225.4	244.3	269.9	310.6	368.4	460.3	587.2	736.9
117.5°	230.6	234.3	240.0	250.1	268.2	294.7	332.4	386.6	467.1	578.3	708.4
120°	247.2	250.9	256.7	265.2	284.1	310.6	347.6	398.8	471.7	573.0	693.2
122.5°	263.1	266.1	271.8	281.1	300.0	327.3	362.0	409.4	477.0	570.0	680.4
125°	284.1	287.0	292.7	304.0	322.9	349.5	383.6	426.2	484.9	564.5	662.0
127.5°	300.8	304.6	312.6	325.1	343.2	370.5	403.7	441.9	493.1	561.3	645.0
130°	310.6	314.5	323.9	337.2	356.1	382.6	415.8	451.8	499.1	559.7	633.7
132.5°	319.8	324.3	334.5	348.5	368.3	394.8	426.4	461.6	505.2	559.0	624.5
135°	333.4	337.2	348.5	362.7	384.5	411.1	441.3	474.5	512.4	557.8	611.8
137.5°	346.3	350.8	362.2	377.3	398.9	423.5	453.5	484.4	518.9	557.7	602.9
140°	356.1	359.9	371.3	386.5	407.2	431.9	460.3	489.7	521.9	556.9	597.6
142.5°	366.0	369.0	379.6	394.8	414.8	438.0	465.6	494.2	524.2	556.9	592.3
145°	380.7	384.5	394.0	408.2	427.1	448.0	473.5	500.1	526.6	555.0	585.3
147.5°	396.6	399.5	408.5	421.7	437.4	455.9	480.0	503.3	527.3	551.6	578.1
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°	919.7	919.7	919.7	919.7	919.7	919.7	919.7	919.7
2.5°	915.3	916.8	918.3	918.8	918.6	918.3	918.0	917.7
5°	908.0	909.7	911.3	911.9	911.3	910.8	910.3	909.7
7.5°	893.3	893.8	894.3	894.1	893.1	892.2	891.2	890.2
10°	878.6	878.1	877.5	876.7	875.5	874.5	873.3	872.2
12.5°	861.8	860.8	859.7	858.3	856.5	854.7	852.8	850.9
15°	830.3	826.7	823.2	820.5	818.7	816.8	815.0	813.2
17.5°	794.7	790.4	786.3	782.6	779.4	776.2	773.1	769.9
20°	769.8	765.2	760.5	756.2	752.1	748.0	744.0	739.9
22.5°	742.5	736.5	730.6	726.1	723.0	720.0	717.0	714.0
25°	697.2	689.7	682.1	676.9	674.2	671.4	668.6	665.9
27.5°	654.1	645.3	636.5	629.8	625.4	621.0	616.6	612.2
30°	623.7	614.2	604.8	597.6	592.6	587.6	582.6	577.6
32.5°	593.0	582.3	571.5	563.8	559.1	554.4	549.7	545.0
35°	545.2	533.5	521.9	514.0	509.9	505.8	501.8	497.7
37.5°	498.5	485.7	472.9	464.1	459.4	454.8	450.1	445.5
40°	467.2	454.1	441.0	432.0	427.2	422.4	417.6	412.8
42.5°	435.8	422.2	408.6	399.5	394.8	390.2	385.6	380.8
45°	389.9	376.7	363.6	354.8	350.4	345.9	341.5	337.0
47.5°	345.3	332.2	319.1	310.6	306.6	302.6	298.5	294.5
50°	316.6	303.8	291.1	282.7	278.8	274.9	271.1	267.2
52.5°	289.5	277.1	264.8	256.9	253.3	249.7	246.1	242.6
55°	248.3	237.2	226.1	218.8	215.3	211.7	208.2	204.7
57.5°	210.8	200.7	190.5	183.9	181.0	178.1	175.0	172.1
60°	185.1	175.6	166.2	160.0	157.0	154.1	151.1	148.1
62.5°	162.7	153.6	144.6	139.3	137.5	135.7	134.0	132.2
65°	132.2	126.0	119.7	116.3	115.7	115.1	114.5	114.1
67.5°	106.7	103.9	101.0	99.2	98.7	98.1	97.5	96.9
70°	92.9	91.0	89.1	87.9	87.1	86.3	85.6	84.9
72.5°	80.8	79.2	77.7	76.7	76.2	75.8	75.3	74.9
75°	64.0	62.7	61.4	60.7	60.5	60.3	60.1	59.9
77.5°	48.4	47.7	47.0	46.5	46.1	45.9	45.6	45.2
80°	38.5	37.7	37.0	36.6	36.6	36.6	36.6	36.6
82.5°	29.1	28.6	28.2	28.0	28.0	28.0	28.0	28.0
85°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
87.5°	11.1	10.6	10.8	10.9	10.9	10.9	10.9	10.9
90°	30.3	28.5	30.3	31.2	31.2	31.2	31.2	31.2
92.5°	82.6	70.8	62.9	57.0	56.3	53.2	54.0	52.5
95°	248.2	190.4	150.6	129.7	117.4	109.9	107.0	107.9
97.5°	579.0	473.8	371.3	302.9	257.6	234.3	220.5	212.5
100°	864.7	747.3	617.5	502.9	424.3	383.6	356.1	339.1
102.5°	1051.9	1025.3	930.4	809.0	723.6	654.1	619.8	596.7
105°	1150.7	1257.8	1270.1	1238.8	1180.1	1121.4	1080.7	1067.4
107.5°	1079.5	1240.7	1339.2	1385.0	1392.4	1389.2	1381.0	1363.4
110°	1018.1	1187.6	1308.9	1386.6	1427.3	1445.3	1453.8	1452.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	962.1	1124.8	1254.3	1343.4	1400.0	1430.1	1446.3	1451.3
115°	893.2	1039.0	1163.0	1260.6	1327.9	1371.4	1396.0	1404.6
117.5°	841.2	969.3	1081.8	1173.3	1241.9	1287.8	1313.9	1321.0
120°	815.5	932.9	1033.3	1119.5	1185.8	1230.3	1257.8	1267.2
122.5°	795.0	902.6	997.7	1075.5	1135.0	1178.8	1203.2	1211.1
125°	765.2	862.8	946.2	1017.2	1072.1	1108.2	1131.8	1139.4
127.5°	735.9	824.2	902.8	968.3	1016.3	1049.9	1070.4	1076.5
130°	717.0	798.4	873.3	935.7	982.2	1014.4	1033.3	1040.9
132.5°	698.8	774.2	842.9	901.6	947.3	979.5	996.9	1003.7
135°	673.4	735.9	798.4	851.4	892.2	923.4	940.4	944.3
137.5°	653.1	705.4	755.0	801.3	838.4	865.3	880.3	885.9
140°	640.3	685.7	729.3	770.9	801.3	825.9	840.1	845.8
142.5°	629.7	668.3	705.8	740.6	769.4	791.8	804.5	805.6
145°	614.7	646.0	675.3	702.8	725.5	741.6	751.1	753.9
147.5°	603.2	627.8	650.7	670.7	689.5	702.4	708.8	710.5
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

(END OF REPORT)