

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: P331371-927

Luminaire Tested: **SA2XXDIP-C675D1080U927-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331371-927  
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-C675D1080U927-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

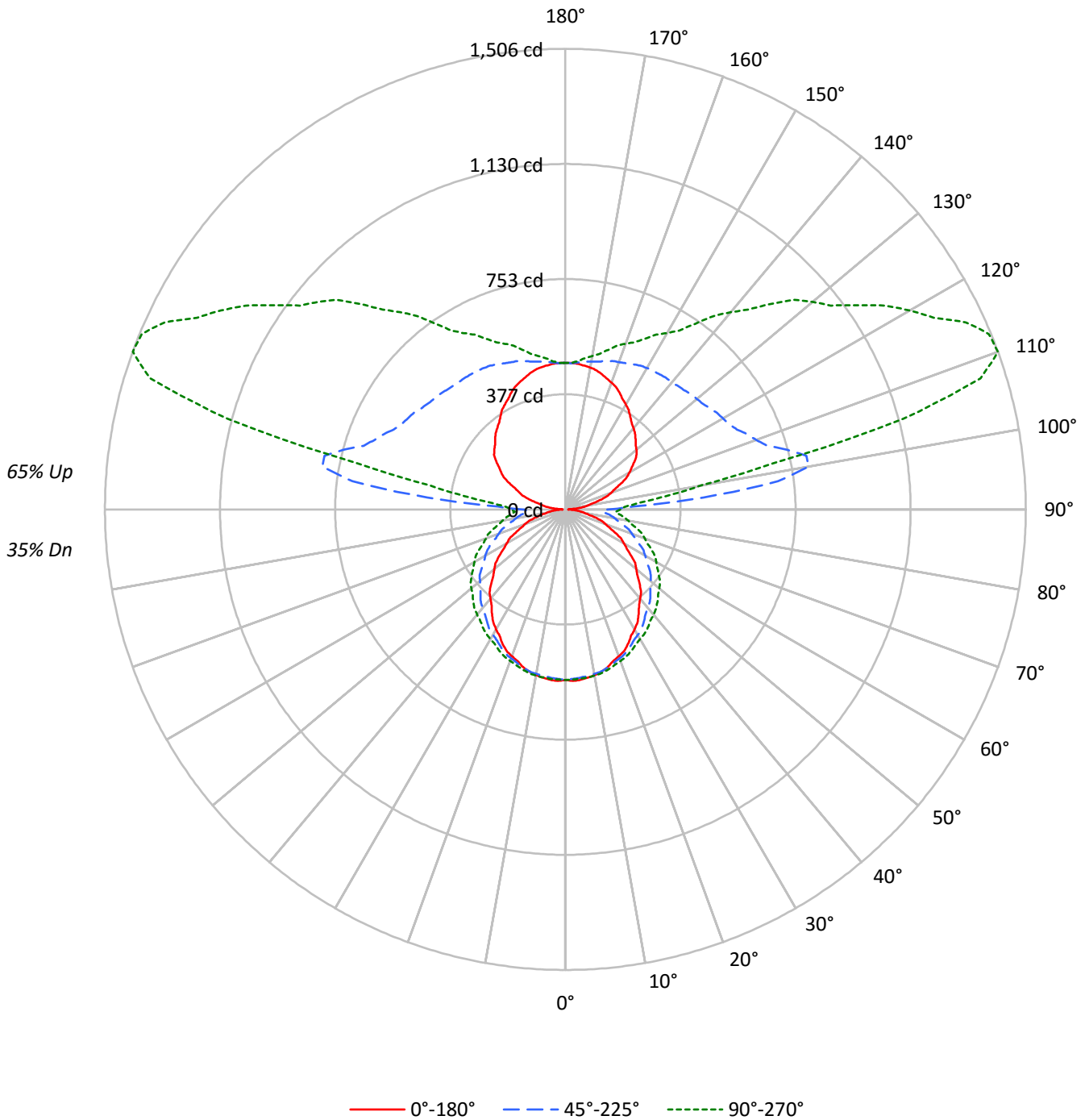
Lumens per Lamp: N/A  
Luminaire Lumens: 5463.1 lumens  
Efficiency: N/A  
Efficacy: 96.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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	0
RCR																		
0	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	35
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	31	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	27	25	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	24	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	26	23	21	19	17	13
6	59	47	39	33	53	42	35	30	34	29	25	26	23	20	19	17	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	26	20	17	20	16	14	15	12	10	8
10	44	32	24	20	39	29	22	18	23	18	15	18	15	12	14	11	9	7

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

	0°	45°	90°
0°	9009	9009	9009
5°	9053	8672	8638
10°	8996	8417	8321
15°	8873	8146	7988
20°	8716	7854	7665
25°	8561	7573	7372
30°	8343	7286	7079
35°	8122	7007	6870
40°	7890	6771	6665
45°	7670	6558	6488
50°	7431	6366	6313
55°	7184	6161	6135
60°	6882	5948	5948
65°	6564	5697	5724
70°	6211	5427	5485
75°	5759	5163	5263
80°	5048	4895	5040
85°	4369	4658	4864



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.9	1.0
10°-20°	151.6	2.8
20°-30°	229.8	4.2
30°-40°	279.8	5.1
40°-50°	301.1	5.5
50°-60°	292.4	5.4
60°-70°	255.3	4.7
70°-80°	196.5	3.6
80°-90°	136.2	2.5
90°-100°	282.2	5.2
100°-110°	715.7	13.1
110°-120°	733.6	13.4
120°-130°	592.3	10.8
130°-140°	466.3	8.5
140°-150°	346.4	6.3
150°-160°	242.2	4.4
160°-170°	142.6	2.6
170°-180°	46.4	0.8
0°-30°	434.3	7.9
0°-40°	714.1	13.1
0°-60°	1307.5	23.9
0°-90°	1895.6	34.7
90°-120°	1731.5	31.7
90°-150°	3136.4	57.4
90°-180°	3568.0	65.3
0°-180°	5463.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	558	558	558	558	558	
5°	560	557	552	557	556	53
15°	534	535	535	542	542	150
25°	485	491	498	507	510	223
35°	418	432	447	464	471	261
45°	343	365	393	417	426	265
55°	263	293	334	362	374	235
65°	180	220	267	299	310	178
75°	100	145	196	230	242	105
85°	29	79	131	164	176	31
90°	9	68	138	168	179	7
95°	39	124	454	259	238	39
105°	116	198	752	1316	1144	124
115°	201	264	619	1249	1446	199
125°	278	330	576	1002	1164	247
135°	325	388	551	827	950	251
145°	370	425	539	674	741	232
155°	421	454	524	592	616	193
165°	458	472	502	532	540	129
175°	478	478	482	488	487	45
180°	479	479	479	479	479	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0
2.5°	561.3	560.8	560.4	559.9	559.5	558.8	557.8	556.7	555.8	554.8	555.5
5°	559.6	559.0	558.6	558.0	557.5	556.7	555.6	554.5	553.4	552.3	553.4
7.5°	554.6	554.2	553.9	553.5	553.2	552.5	551.8	550.9	550.1	549.3	550.6
10°	550.7	550.3	550.0	549.6	549.3	548.8	548.3	547.8	547.2	546.7	548.1
12.5°	544.2	544.3	544.4	544.5	544.5	544.4	544.0	543.6	543.2	542.8	544.2
15°	533.8	534.1	534.5	534.8	535.2	535.4	535.4	535.4	535.4	535.4	536.9
17.5°	520.1	520.9	521.7	522.4	523.2	523.9	524.4	525.0	525.5	526.2	527.8
20°	511.1	512.0	512.9	513.8	514.7	515.5	516.2	517.0	517.7	518.4	520.4
22.5°	501.4	502.4	503.5	504.5	505.6	506.6	507.6	508.6	509.6	510.6	512.6
25°	485.2	486.5	487.7	489.0	490.3	491.7	493.3	495.0	496.5	498.1	500.3
27.5°	465.8	467.9	469.9	472.0	474.0	476.0	477.9	479.8	481.7	483.6	486.3
30°	452.9	455.2	457.6	459.9	462.2	464.5	466.9	469.2	471.6	473.9	476.7
32.5°	438.6	441.2	443.9	446.5	449.2	451.9	454.6	457.3	460.1	462.9	466.2
35°	418.1	421.1	424.2	427.2	430.3	433.6	437.0	440.4	443.8	447.2	451.1
37.5°	395.8	399.3	402.8	406.3	409.9	413.8	418.3	422.7	427.1	431.5	435.9
40°	380.9	384.8	388.8	392.8	396.7	401.1	406.0	410.8	415.7	420.5	425.2
42.5°	366.7	370.6	374.5	378.5	382.5	387.2	392.8	398.4	403.9	409.6	414.6
45°	342.9	347.8	352.6	357.4	362.3	367.9	374.1	380.5	386.7	393.0	398.6
47.5°	319.4	324.7	330.0	335.3	340.6	346.9	354.3	361.6	369.0	376.4	382.2
50°	303.2	308.9	314.4	320.0	325.5	332.4	340.5	348.6	356.6	364.7	370.8
52.5°	287.7	293.6	299.4	305.3	311.2	318.4	326.9	335.4	343.9	352.4	358.7
55°	262.8	269.3	275.8	282.3	288.7	296.6	305.9	315.3	324.6	334.0	340.5
57.5°	238.2	245.6	252.9	260.2	267.4	275.8	285.3	294.9	304.4	313.9	320.9
60°	220.8	228.5	236.2	244.0	251.7	260.7	270.9	281.1	291.4	301.7	308.5
62.5°	205.3	213.3	221.3	229.3	237.3	246.4	256.7	266.9	277.2	287.4	294.7
65°	179.5	188.3	197.2	206.0	214.8	224.4	235.0	245.7	256.3	266.9	274.3
67.5°	155.9	165.1	174.4	183.5	192.7	202.7	213.6	224.4	235.3	246.1	253.6
70°	139.1	148.5	157.8	167.2	176.5	186.7	197.9	209.0	220.1	231.3	239.0
72.5°	123.6	133.2	142.8	152.5	162.1	172.5	183.9	195.1	206.4	217.7	225.3
75°	99.5	109.6	119.6	129.7	139.7	150.5	162.0	173.5	185.0	196.5	204.2
77.5°	76.2	86.7	97.3	107.7	118.3	129.4	141.1	152.8	164.5	176.1	183.9
80°	60.7	71.6	82.5	93.6	104.5	115.8	127.5	139.2	150.8	162.6	170.1
82.5°	47.7	58.5	69.3	80.2	91.0	102.3	114.2	126.0	137.8	149.6	157.2
85°	29.2	40.2	51.4	62.5	73.7	85.0	96.5	108.0	119.5	131.0	138.6
87.5°	16.0	27.3	38.7	49.8	60.9	72.6	85.0	97.8	110.4	122.1	129.2
90°	9.0	22.2	36.3	48.6	60.8	74.5	90.6	108.6	125.6	138.0	144.3
92.5°	18.7	33.4	49.7	63.5	79.4	98.4	130.3	170.6	207.9	220.5	209.0
95°	38.7	50.8	68.4	85.2	108.4	140.1	193.1	284.0	401.6	453.8	415.5
97.5°	58.1	70.6	87.9	107.9	132.4	166.3	229.8	351.7	539.5	701.9	738.7
100°	76.5	86.0	100.8	122.2	147.3	181.4	240.3	362.6	571.4	807.9	947.1
102.5°	92.8	100.9	115.3	136.1	161.3	195.0	249.9	359.3	553.2	807.0	1021.9
105°	116.3	125.2	136.9	155.9	181.3	214.4	267.0	358.2	519.4	751.5	1002.5
107.5°	142.7	149.8	160.2	177.1	201.3	233.8	284.7	365.1	499.6	692.5	914.9
110°	159.7	167.0	176.1	191.6	214.5	247.4	296.8	371.8	492.9	663.6	859.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	175.9	182.6	191.9	206.1	227.7	260.9	308.2	379.1	489.5	642.9	820.0
115°	201.1	207.6	215.2	228.1	248.6	278.5	326.1	390.3	487.7	619.1	769.8
117.5°	226.4	231.4	238.2	249.2	268.2	298.3	342.5	402.6	488.3	603.8	735.5
120°	242.6	247.0	253.3	262.3	281.4	311.1	354.2	411.1	489.1	594.8	716.7
122.5°	258.1	261.3	267.1	276.4	295.1	325.1	365.6	418.4	490.8	588.0	700.1
125°	277.7	280.4	286.0	297.0	315.4	344.0	382.9	430.1	492.9	576.0	675.6
127.5°	293.9	297.4	304.9	316.9	334.4	363.1	400.0	441.8	496.1	567.0	652.8
130°	303.5	307.0	316.0	328.7	346.9	374.5	410.4	449.2	499.0	561.7	637.8
132.5°	312.3	316.6	326.3	339.8	358.7	385.8	419.5	456.6	501.8	557.1	624.9
135°	324.7	328.4	339.5	353.2	374.5	401.1	432.4	466.4	504.9	551.0	607.1
137.5°	337.2	341.7	352.7	367.3	388.2	412.6	442.4	473.2	507.6	546.1	593.3
140°	346.8	350.3	361.2	375.7	395.8	419.8	447.8	476.7	508.3	542.7	585.2
142.5°	356.4	359.2	369.3	383.8	403.1	425.6	452.5	480.4	509.5	541.5	578.1
145°	369.9	373.6	382.9	396.6	415.0	435.3	460.1	485.9	511.7	539.2	569.8
147.5°	385.4	388.2	397.0	409.7	425.0	443.0	466.4	489.0	512.4	536.0	561.9
150°	395.7	398.5	405.8	417.8	431.6	448.1	469.4	490.5	511.7	533.8	555.8
152.5°	406.0	407.3	414.6	425.2	438.2	453.3	472.3	491.2	510.2	530.0	550.6
155°	420.6	421.4	427.0	437.1	447.3	461.1	476.7	492.3	507.9	523.6	541.1
157.5°	432.7	433.6	438.1	446.9	455.0	466.6	479.8	492.3	503.7	517.0	532.1
160°	440.8	441.7	445.4	452.7	460.1	470.2	481.3	492.3	501.5	512.6	525.5
162.5°	448.9	448.4	452.0	457.9	464.5	472.5	482.0	491.6	499.3	508.9	519.6
165°	458.3	457.4	459.2	464.7	469.4	474.8	483.2	489.6	495.1	501.5	509.8
167.5°	466.0	464.9	466.6	470.1	473.4	476.9	482.9	488.3	490.8	495.1	500.3
170°	471.2	469.4	470.2	473.0	474.8	477.6	482.2	486.8	488.6	491.4	495.1
172.5°	474.1	473.0	472.5	475.2	476.3	478.3	481.5	484.6	485.7	487.0	490.0
175°	477.6	476.7	475.8	477.6	477.6	478.6	480.4	482.2	481.3	482.2	483.2
177.5°	479.3	477.8	477.1	478.6	478.6	478.6	479.3	480.8	479.3	478.6	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0
2.5°	556.2	556.9	557.6	557.9	557.5	557.3	557.0	556.7
5°	554.5	555.6	556.7	557.1	556.9	556.7	556.6	556.3
7.5°	551.8	553.2	554.4	555.0	554.8	554.6	554.4	554.3
10°	549.5	551.0	552.5	553.0	552.9	552.7	552.5	552.3
12.5°	545.7	547.1	548.6	549.1	549.0	548.8	548.7	548.4
15°	538.6	540.2	541.9	542.6	542.4	542.2	542.0	541.9
17.5°	529.5	531.2	532.9	533.8	533.8	533.8	533.8	533.8
20°	522.4	524.3	526.2	527.3	527.3	527.3	527.3	527.3
22.5°	514.6	516.6	518.5	519.7	519.9	520.2	520.5	520.8
25°	502.5	504.6	506.8	508.1	508.7	509.2	509.8	510.3
27.5°	489.1	491.8	494.6	496.1	496.5	496.9	497.3	497.6
30°	479.7	482.5	485.4	487.1	487.7	488.2	488.7	489.3
32.5°	469.5	472.9	476.1	478.2	479.3	480.2	481.2	482.1
35°	455.1	459.1	463.0	465.6	466.9	468.2	469.4	470.6
37.5°	440.3	444.7	449.1	451.9	453.3	454.6	455.9	457.2
40°	429.8	434.5	439.2	442.4	443.9	445.6	447.2	448.9
42.5°	419.7	424.8	429.9	433.3	434.9	436.6	438.2	439.7
45°	404.2	409.7	415.3	419.0	420.8	422.6	424.4	426.2
47.5°	388.0	393.9	399.7	403.5	405.5	407.5	409.5	411.5
50°	376.9	383.0	389.2	393.2	395.2	397.2	399.1	401.1
52.5°	365.0	371.2	377.5	381.7	383.7	385.9	388.0	390.1
55°	346.9	353.4	359.9	364.2	366.6	368.9	371.3	373.6
57.5°	327.9	334.9	341.8	346.5	348.9	351.3	353.6	356.0
60°	315.3	322.1	329.0	333.7	336.1	338.7	341.2	343.7
62.5°	301.9	309.2	316.5	321.3	323.6	326.0	328.4	330.7
65°	281.6	289.0	296.4	301.2	303.6	305.9	308.2	310.5
67.5°	261.0	268.5	275.9	280.9	283.3	285.7	288.2	290.7
70°	246.8	254.4	262.2	267.1	269.3	271.5	273.6	275.8
72.5°	232.9	240.4	248.0	253.1	255.7	258.3	260.9	263.5
75°	212.0	219.7	227.4	232.4	234.8	237.1	239.5	241.8
77.5°	191.5	199.2	206.9	212.0	214.5	217.1	219.5	222.0
80°	177.6	185.2	192.7	197.8	200.3	202.8	205.3	207.9
82.5°	164.7	172.2	179.8	184.7	187.1	189.5	191.9	194.2
85°	146.1	153.7	161.2	166.2	168.7	171.3	173.8	176.3
87.5°	136.3	143.3	151.0	156.1	158.4	160.7	163.0	165.2
90°	150.6	155.9	164.9	170.6	172.7	174.8	177.0	179.2
92.5°	195.3	190.9	190.2	189.1	190.5	189.7	192.7	193.3
95°	347.8	298.5	266.6	250.9	241.1	235.8	235.3	238.4
97.5°	662.0	566.3	473.4	411.3	369.5	349.0	337.6	332.0
100°	934.4	826.9	707.5	600.5	526.0	488.5	463.7	449.2
102.5°	1111.4	1092.1	1006.4	892.7	811.7	746.1	714.8	694.3
105°	1200.2	1310.5	1328.8	1302.5	1247.4	1192.4	1154.8	1143.9
107.5°	1123.9	1286.6	1388.3	1436.9	1446.0	1444.9	1438.9	1423.8
110°	1059.8	1230.3	1353.8	1433.1	1474.7	1494.1	1504.4	1505.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1000.8	1164.7	1296.3	1386.6	1443.7	1474.9	1492.6	1499.4
115°	927.1	1074.2	1200.2	1298.6	1366.0	1410.2	1436.1	1446.4
117.5°	869.9	999.7	1114.3	1206.7	1275.3	1321.8	1348.8	1357.6
120°	840.4	959.6	1062.2	1149.4	1215.8	1261.0	1289.7	1300.8
122.5°	816.3	925.8	1023.1	1102.0	1161.5	1205.7	1231.1	1240.6
125°	780.8	880.4	966.2	1038.5	1093.4	1130.0	1154.7	1163.7
127.5°	745.6	835.8	916.7	983.4	1031.5	1065.9	1087.3	1094.8
130°	723.0	806.5	883.5	947.1	993.6	1026.4	1046.2	1055.0
132.5°	701.2	778.6	849.6	909.5	955.3	988.0	1006.4	1014.4
135°	670.7	735.2	799.8	853.9	894.9	926.7	944.8	949.8
137.5°	645.4	699.5	751.1	798.2	835.5	862.9	878.6	885.4
140°	629.5	676.5	721.7	764.2	794.7	819.8	834.6	841.2
142.5°	616.7	656.6	695.3	730.8	759.7	782.4	795.6	797.6
145°	599.4	630.8	660.4	688.2	711.1	727.6	737.8	741.4
147.5°	586.3	610.4	632.8	652.6	671.2	684.2	690.9	693.0
150°	577.9	598.2	617.5	634.1	647.8	658.9	664.4	665.4
152.5°	569.8	588.6	605.0	619.3	630.2	639.8	643.8	644.0
155°	558.6	573.3	587.1	597.2	607.4	613.8	617.5	615.7
157.5°	545.5	557.9	569.4	577.3	584.6	589.9	591.5	591.5
160°	537.4	547.6	557.7	564.1	570.5	575.1	576.1	576.1
162.5°	529.3	538.0	546.6	551.6	558.0	561.2	562.1	561.3
165°	517.2	523.6	530.0	533.8	537.4	541.1	541.1	540.2
167.5°	505.6	510.6	515.0	518.3	519.9	522.0	521.8	520.7
170°	499.7	502.5	506.1	507.9	508.9	511.7	510.7	508.9
172.5°	493.1	495.1	498.0	499.2	500.1	501.4	500.4	499.3
175°	485.9	486.8	487.7	488.6	488.6	489.6	488.6	486.8
177.5°	480.8	480.8	481.5	481.5	481.5	481.5	480.8	479.3
180°	478.6	478.6	478.6	478.6	478.6	478.6	478.6	478.6

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