

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

Luminaire Tested: **SA2XXDIP-C675D1080U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331371  
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-C675D1080U835-4F0-1E-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**

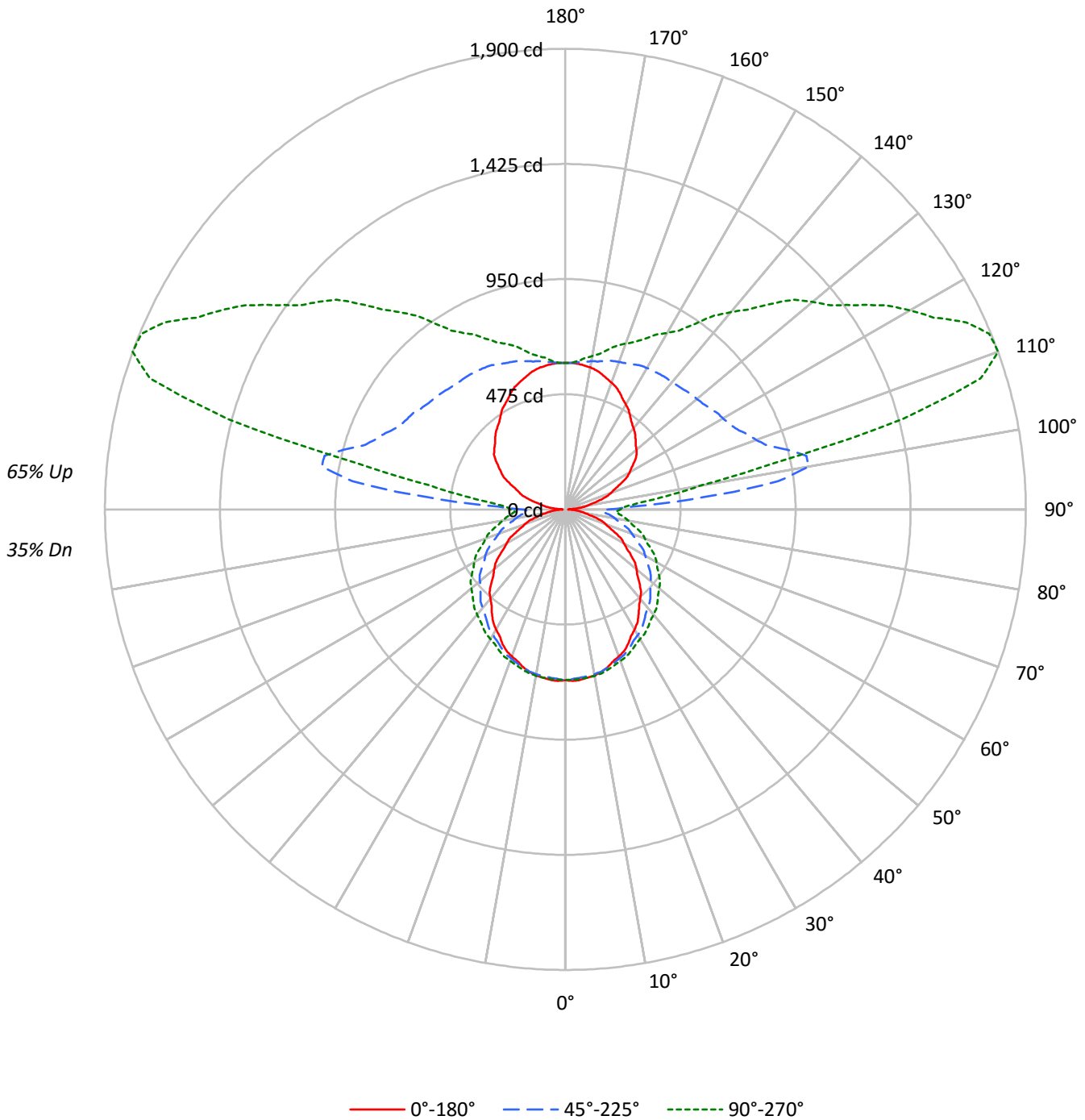
Lumens per Lamp: N/A  
Luminaire Lumens: 6896.2 lumens  
Efficiency: N/A  
Efficacy: 121.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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	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°	11373	11373	11373
5°	11428	10947	10905
10°	11356	10624	10504
15°	11200	10282	10083
20°	11002	9915	9676
25°	10807	9560	9307
30°	10532	9197	8935
35°	10254	8846	8673
40°	9960	8547	8413
45°	9681	8279	8190
50°	9382	8037	7969
55°	9070	7777	7745
60°	8686	7508	7509
65°	8287	7191	7227
70°	7841	6852	6923
75°	7270	6518	6643
80°	6370	6177	6361
85°	5506	5882	6138



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.7	1.0
10°-20°	191.4	2.8
20°-30°	290.0	4.2
30°-40°	353.3	5.1
40°-50°	380.0	5.5
50°-60°	369.1	5.4
60°-70°	322.3	4.7
70°-80°	248.1	3.6
80°-90°	171.9	2.5
90°-100°	356.2	5.2
100°-110°	903.4	13.1
110°-120°	926.1	13.4
120°-130°	747.7	10.8
130°-140°	588.6	8.5
140°-150°	437.2	6.3
150°-160°	305.7	4.4
160°-170°	180.0	2.6
170°-180°	58.6	0.8
0°-30°	548.2	7.9
0°-40°	901.4	13.1
0°-60°	1650.6	23.9
0°-90°	2392.9	34.7
90°-120°	2185.7	31.7
90°-150°	3959.2	57.4
90°-180°	4503.0	65.3
0°-180°	6896.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	704	704	704	704	704	
5°	706	703	697	703	702	67
15°	674	676	676	684	684	190
25°	612	620	629	641	644	281
35°	528	545	564	586	594	330
45°	433	461	496	527	538	334
55°	332	369	422	457	472	297
65°	227	277	337	377	392	225
75°	126	183	248	290	305	133
85°	37	100	165	207	222	40
90°	11	85	174	212	226	9
95°	49	157	573	327	301	50
105°	147	250	949	1661	1444	156
115°	254	333	782	1577	1826	251
125°	350	416	727	1265	1469	312
135°	410	490	696	1044	1199	317
145°	467	537	681	851	936	293
155°	531	573	661	748	777	244
165°	578	596	633	671	682	163
175°	603	604	609	616	614	57
180°	604	604	604	604	604	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	708.5	707.9	707.4	706.8	706.3	705.4	704.1	702.8	701.6	700.3	701.2
5°	706.4	705.7	705.1	704.4	703.7	702.7	701.3	700.0	698.6	697.2	698.6
7.5°	700.1	699.6	699.2	698.7	698.3	697.5	696.5	695.4	694.4	693.4	695.0
10°	695.2	694.7	694.3	693.8	693.4	692.8	692.1	691.5	690.8	690.1	691.9
12.5°	687.0	687.1	687.2	687.3	687.4	687.2	686.7	686.2	685.7	685.2	687.0
15°	673.8	674.2	674.7	675.1	675.6	675.8	675.8	675.8	675.8	675.8	677.8
17.5°	656.6	657.6	658.5	659.5	660.4	661.3	662.0	662.7	663.4	664.2	666.3
20°	645.2	646.3	647.4	648.6	649.7	650.7	651.6	652.6	653.5	654.4	656.9
22.5°	632.9	634.2	635.6	636.9	638.2	639.5	640.8	642.0	643.3	644.6	647.1
25°	612.5	614.1	615.7	617.3	618.9	620.7	622.7	624.8	626.8	628.8	631.6
27.5°	588.0	590.6	593.2	595.8	598.4	600.9	603.3	605.7	608.1	610.5	613.9
30°	571.7	574.6	577.6	580.5	583.5	586.4	589.4	592.3	595.3	598.2	601.8
32.5°	553.7	557.0	560.3	563.6	567.0	570.4	573.9	577.3	580.8	584.3	588.5
35°	527.8	531.6	535.5	539.3	543.2	547.3	551.6	555.9	560.2	564.5	569.5
37.5°	499.6	504.1	508.5	512.9	517.4	522.4	528.0	533.6	539.1	544.7	550.3
40°	480.8	485.8	490.8	495.8	500.8	506.3	512.5	518.6	524.7	530.8	536.7
42.5°	462.9	467.8	472.8	477.8	482.8	488.8	495.9	502.9	509.9	517.0	523.4
45°	432.8	439.0	445.1	451.2	457.3	464.4	472.3	480.3	488.2	496.1	503.2
47.5°	403.2	409.9	416.6	423.2	429.9	437.9	447.2	456.5	465.8	475.1	482.5
50°	382.8	389.9	396.9	403.9	410.9	419.6	429.8	440.0	450.2	460.4	468.1
52.5°	363.2	370.6	378.0	385.4	392.8	401.9	412.6	423.4	434.1	444.9	452.8
55°	331.8	339.9	348.1	356.3	364.4	374.4	386.2	398.0	409.8	421.6	429.8
57.5°	300.7	310.0	319.2	328.4	337.6	348.2	360.2	372.2	384.3	396.3	405.1
60°	278.7	288.4	298.2	308.0	317.7	329.1	342.0	354.9	367.8	380.8	389.4
62.5°	259.1	269.2	279.3	289.4	299.6	311.1	324.0	336.9	349.9	362.8	372.0
65°	226.6	237.7	248.9	260.0	271.1	283.3	296.7	310.1	323.5	336.9	346.2
67.5°	196.8	208.4	220.1	231.7	243.3	255.9	269.6	283.3	297.0	310.7	320.1
70°	175.6	187.4	199.2	211.0	222.8	235.7	249.8	263.8	277.9	292.0	301.7
72.5°	156.0	168.1	180.3	192.5	204.6	217.8	232.1	246.3	260.6	274.8	284.4
75°	125.6	138.3	151.0	163.7	176.4	190.0	204.5	219.0	233.5	248.1	257.8
77.5°	96.2	109.5	122.8	136.0	149.3	163.4	178.1	192.9	207.6	222.3	232.1
80°	76.6	90.4	104.2	118.1	131.9	146.2	161.0	175.7	190.4	205.2	214.7
82.5°	60.2	73.9	87.5	101.2	114.9	129.1	144.1	159.0	173.9	188.9	198.4
85°	36.8	50.8	64.9	78.9	93.0	107.3	121.8	136.3	150.9	165.4	174.9
87.5°	20.2	34.5	48.9	62.9	76.9	91.6	107.3	123.4	139.3	154.1	163.1
90°	11.4	28.0	45.8	61.3	76.8	94.1	114.4	137.1	158.6	174.2	182.2
92.5°	23.6	42.1	62.7	80.1	100.2	124.2	164.5	215.4	262.4	278.4	263.8
95°	48.8	64.1	86.4	107.5	136.8	176.8	243.8	358.5	506.9	572.8	524.5
97.5°	73.4	89.1	110.9	136.2	167.1	209.9	290.1	444.0	681.0	886.0	932.5
100°	96.6	108.5	127.3	154.3	185.9	229.0	303.3	457.7	721.3	1019.8	1195.5
102.5°	117.2	127.4	145.5	171.8	203.6	246.1	315.4	453.6	698.3	1018.7	1290.0
105°	146.8	158.1	172.8	196.8	228.9	270.6	337.0	452.2	655.7	948.6	1265.5
107.5°	180.1	189.1	202.2	223.5	254.1	295.1	359.4	460.9	630.6	874.2	1154.9
110°	201.6	210.8	222.3	241.9	270.8	312.3	374.6	469.3	622.2	837.7	1085.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	222.0	230.5	242.2	260.2	287.4	329.3	389.1	478.6	617.9	811.6	1035.1
115°	253.8	262.1	271.6	288.0	313.8	351.5	411.7	492.7	615.6	781.5	971.8
117.5°	285.8	292.1	300.7	314.6	338.6	376.6	432.3	508.2	616.4	762.2	928.5
120°	306.3	311.8	319.7	331.1	355.2	392.7	447.1	518.9	617.4	750.8	904.7
122.5°	325.8	329.9	337.2	348.9	372.5	410.4	461.5	528.1	619.6	742.2	883.8
125°	350.5	354.0	361.0	374.9	398.2	434.3	483.4	542.9	622.2	727.1	852.8
127.5°	371.0	375.4	384.9	400.0	422.1	458.4	504.9	557.7	626.3	715.8	824.1
130°	383.1	387.5	398.9	414.9	437.9	472.7	518.1	567.0	629.9	709.0	805.1
132.5°	394.2	399.6	411.9	428.9	452.8	487.0	529.5	576.4	633.5	703.2	788.8
135°	409.9	414.6	428.5	445.9	472.7	506.3	545.8	588.7	637.4	695.5	766.4
137.5°	425.7	431.3	445.2	463.7	490.1	520.8	558.5	597.4	640.7	689.3	749.0
140°	437.8	442.2	455.9	474.3	499.6	529.9	565.3	601.7	641.7	685.1	738.7
142.5°	449.9	453.4	466.2	484.5	508.9	537.2	571.2	606.4	643.2	683.5	729.8
145°	467.0	471.6	483.3	500.7	523.9	549.5	580.8	613.4	645.9	680.7	719.3
147.5°	486.5	490.0	501.1	517.2	536.5	559.2	588.7	617.3	646.8	676.6	709.3
150°	499.5	503.0	512.3	527.4	544.8	565.7	592.5	619.2	645.9	673.8	701.6
152.5°	512.5	514.2	523.4	536.7	553.2	572.2	596.2	620.1	644.0	669.1	695.1
155°	530.9	532.0	539.0	551.8	564.6	582.0	601.7	621.5	641.2	661.0	683.1
157.5°	546.2	547.4	553.0	564.1	574.3	589.0	605.7	621.5	635.9	652.6	671.7
160°	556.4	557.6	562.2	571.5	580.8	593.6	607.6	621.5	633.1	647.1	663.3
162.5°	566.7	566.0	570.6	578.0	586.4	596.4	608.5	620.6	630.3	642.4	655.9
165°	578.5	577.4	579.7	586.6	592.5	599.4	609.9	618.0	625.0	633.1	643.6
167.5°	588.3	586.9	589.0	593.4	597.6	602.0	609.6	616.4	619.6	625.0	631.5
170°	594.8	592.5	593.6	597.1	599.4	602.9	608.7	614.5	616.8	620.3	625.0
172.5°	598.5	597.1	596.4	599.9	601.3	603.8	607.8	611.7	613.1	614.8	618.5
175°	602.9	601.7	600.6	602.9	602.9	604.1	606.4	608.7	607.6	608.7	609.9
177.5°	605.0	603.1	602.2	604.1	604.1	604.1	605.0	606.9	605.0	604.1	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	702.1	703.0	703.9	704.2	703.8	703.5	703.1	702.8
5°	700.0	701.3	702.7	703.3	703.0	702.8	702.6	702.3
7.5°	696.6	698.3	699.9	700.6	700.4	700.1	699.9	699.7
10°	693.7	695.5	697.4	698.1	697.9	697.7	697.5	697.2
12.5°	688.8	690.6	692.5	693.2	693.0	692.8	692.6	692.3
15°	679.9	681.9	684.0	684.9	684.7	684.4	684.2	684.0
17.5°	668.4	670.6	672.7	673.8	673.8	673.8	673.8	673.8
20°	659.4	661.9	664.3	665.6	665.6	665.6	665.6	665.6
22.5°	649.6	652.1	654.5	656.0	656.3	656.7	657.1	657.4
25°	634.3	637.0	639.7	641.4	642.1	642.8	643.5	644.2
27.5°	617.4	620.8	624.3	626.2	626.7	627.2	627.7	628.2
30°	605.5	609.1	612.7	614.9	615.6	616.3	616.9	617.6
32.5°	592.7	596.9	601.0	603.7	605.0	606.2	607.4	608.6
35°	574.5	579.5	584.5	587.8	589.4	591.0	592.5	594.1
37.5°	555.8	561.3	566.9	570.5	572.2	573.8	575.5	577.2
40°	542.6	548.5	554.4	558.4	560.4	562.5	564.5	566.6
42.5°	529.8	536.3	542.7	547.0	549.0	551.1	553.1	555.1
45°	510.2	517.2	524.3	528.9	531.2	533.5	535.7	538.0
47.5°	489.8	497.2	504.5	509.4	511.9	514.4	516.9	519.4
50°	475.8	483.5	491.3	496.4	498.9	501.4	503.8	506.3
52.5°	460.7	468.6	476.5	481.8	484.4	487.1	489.8	492.5
55°	437.9	446.1	454.3	459.8	462.8	465.7	468.7	471.6
57.5°	413.9	422.7	431.5	437.4	440.4	443.4	446.4	449.4
60°	398.0	406.6	415.3	421.2	424.3	427.5	430.7	433.9
62.5°	381.1	390.3	399.5	405.6	408.5	411.5	414.5	417.5
65°	355.5	364.8	374.1	380.2	383.2	386.1	389.1	392.0
67.5°	329.5	338.9	348.3	354.6	357.6	360.7	363.8	366.9
70°	311.5	321.2	331.0	337.2	339.9	342.7	345.4	348.1
72.5°	294.0	303.5	313.1	319.5	322.8	326.1	329.3	332.6
75°	267.6	277.3	287.1	293.4	296.4	299.3	302.3	305.2
77.5°	241.8	251.5	261.2	267.6	270.8	274.0	277.1	280.3
80°	224.2	233.8	243.3	249.7	252.8	256.0	259.2	262.4
82.5°	207.9	217.4	227.0	233.2	236.2	239.2	242.2	245.2
85°	184.4	194.0	203.5	209.8	213.0	216.2	219.4	222.5
87.5°	172.1	180.9	190.6	197.0	199.9	202.8	205.7	208.6
90°	190.1	196.8	208.2	215.3	218.0	220.7	223.4	226.2
92.5°	246.5	241.0	240.1	238.7	240.5	239.5	243.2	244.0
95°	439.0	376.8	336.6	316.7	304.3	297.7	297.0	300.9
97.5°	835.7	714.9	597.6	519.2	466.4	440.5	426.2	419.1
100°	1179.5	1043.8	893.1	758.0	664.0	616.6	585.4	567.0
102.5°	1402.9	1378.6	1270.4	1126.9	1024.6	941.8	902.3	876.4
105°	1515.1	1654.3	1677.4	1644.2	1574.7	1505.2	1457.7	1444.0
107.5°	1418.7	1624.1	1752.5	1813.8	1825.4	1823.9	1816.4	1797.3
110°	1337.8	1553.0	1709.0	1809.1	1861.6	1886.1	1899.1	1900.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1263.4	1470.2	1636.4	1750.4	1822.4	1861.8	1884.1	1892.8
115°	1170.3	1356.0	1515.0	1639.3	1724.3	1780.2	1812.9	1825.9
117.5°	1098.1	1261.9	1406.6	1523.3	1609.8	1668.5	1702.7	1713.8
120°	1060.9	1211.3	1340.8	1450.9	1534.7	1591.8	1628.0	1642.1
122.5°	1030.5	1168.7	1291.5	1391.1	1466.2	1522.0	1554.1	1566.0
125°	985.6	1111.4	1219.7	1310.9	1380.3	1426.5	1457.6	1469.0
127.5°	941.2	1055.1	1157.2	1241.4	1302.1	1345.5	1372.6	1382.0
130°	912.7	1018.1	1115.3	1195.6	1254.3	1295.6	1320.7	1331.8
132.5°	885.2	982.9	1072.5	1148.1	1205.9	1247.2	1270.4	1280.5
135°	846.7	928.1	1009.6	1077.9	1129.7	1169.8	1192.6	1199.0
137.5°	814.7	883.0	948.1	1007.6	1054.7	1089.3	1109.1	1117.7
140°	794.6	854.0	911.0	964.7	1003.2	1034.8	1053.5	1061.9
142.5°	778.5	828.8	877.7	922.5	959.0	987.6	1004.3	1006.9
145°	756.6	796.3	833.7	868.7	897.7	918.5	931.3	935.9
147.5°	740.1	770.5	798.8	823.8	847.3	863.7	872.1	874.8
150°	729.5	755.1	779.5	800.4	817.8	831.8	838.7	839.9
152.5°	719.3	743.0	763.7	781.8	795.5	807.6	812.7	812.9
155°	705.1	723.7	741.1	753.9	766.7	774.8	779.5	777.2
157.5°	688.6	704.2	718.8	728.8	737.9	744.6	746.7	746.7
160°	678.4	691.2	704.0	712.1	720.2	726.0	727.2	727.2
162.5°	668.2	679.1	690.0	696.3	704.4	708.4	709.5	708.6
165°	652.9	661.0	669.1	673.8	678.4	683.1	683.1	681.9
167.5°	638.2	644.5	650.1	654.3	656.3	658.9	658.7	657.3
170°	630.8	634.3	638.9	641.2	642.4	645.9	644.7	642.4
172.5°	622.4	625.0	628.7	630.1	631.3	632.9	631.7	630.3
175°	613.4	614.5	615.7	616.8	616.8	618.0	616.8	614.5
177.5°	606.9	606.9	607.8	607.8	607.8	607.8	606.9	605.0
180°	604.1	604.1	604.1	604.1	604.1	604.1	604.1	604.1

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