

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: P331347-935

Luminaire Tested: **SA2XXDIP-C675D530U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331347-935  
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-C675D530U935-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

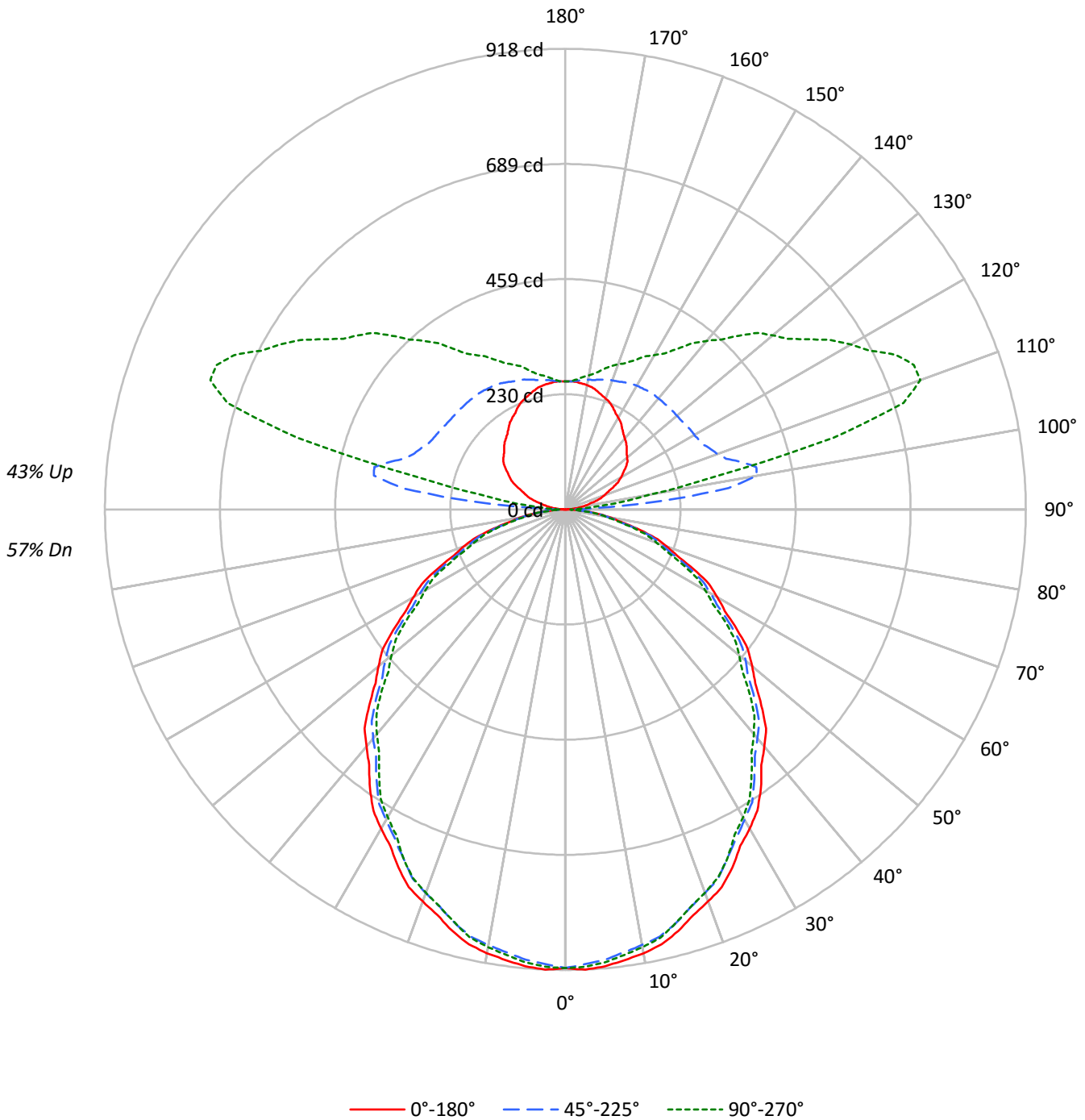
Lumens per Lamp: N/A  
Luminaire Lumens: 4104.7 lumens  
Efficiency: N/A  
Efficacy: 101.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 40.3  
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	57
1	99	95	91	87	92	88	85	82	76	74	72	65	63	62	55	54	53	48
2	90	83	77	71	84	77	72	67	67	63	59	57	54	52	48	46	44	40
3	82	73	65	60	76	68	62	56	59	54	50	51	47	44	43	40	38	34
4	75	65	57	50	70	60	53	48	53	47	43	45	41	37	38	35	33	29
5	69	58	49	43	64	54	47	41	47	41	37	41	36	32	35	31	28	25
6	64	52	43	38	59	48	41	36	42	36	32	37	32	28	31	28	25	22
7	59	47	39	33	55	44	37	31	38	33	28	33	29	25	29	25	22	20
8	55	42	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	28	23	45	34	27	22	30	24	20	26	22	18	23	19	16	14

**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	2.1
10°-20°	241.9	5.9
20°-30°	355.5	8.7
30°-40°	412.9	10.1
40°-50°	412.5	10.0
50°-60°	359.7	8.8
60°-70°	266.0	6.5
70°-80°	150.6	3.7
80°-90°	42.8	1.0
90°-100°	102.1	2.5
100°-110°	346.4	8.4
110°-120°	368.0	9.0
120°-130°	303.0	7.4
130°-140°	243.3	5.9
140°-150°	183.9	4.5
150°-160°	129.2	3.1
160°-170°	76.1	1.9
170°-180°	24.8	0.6
0°-30°	683.3	16.6
0°-40°	1096.3	26.7
0°-60°	1868.5	45.5
0°-90°	2327.9	56.7
90°-120°	816.6	19.9
90°-150°	1546.7	37.7
90°-180°	1777.0	43.3
0°-180°	4104.7	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°	0	7	17	16	16	3
95°	17	42	192	73	56	18
105°	60	90	364	650	553	64
115°	106	133	304	628	728	105
125°	147	174	293	509	591	131
135°	173	206	289	428	490	133
145°	197	227	288	357	391	124
155°	224	242	279	316	328	103
165°	244	252	268	284	288	69
175°	255	255	257	260	260	24
180°	255	255	255	255	255	



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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°	12.7	12.7	12.8	12.7	12.6	12.6	12.7	13.1	13.4	13.2	12.7
90°	0.5	2.0	4.0	4.9	5.9	7.4	9.8	13.3	16.2	16.7	16.2
92.5°	6.0	8.6	12.1	14.4	17.7	22.3	33.4	49.0	62.9	63.8	53.9
95°	17.2	19.1	24.0	28.5	36.3	48.1	70.7	113.4	170.4	192.5	168.4
97.5°	28.0	30.7	35.8	42.5	51.6	64.9	93.3	152.8	247.5	328.6	344.7
100°	37.8	39.3	43.7	51.6	61.4	75.2	101.2	161.1	267.1	387.9	458.6
102.5°	46.8	48.0	52.3	60.2	70.4	84.1	108.2	161.4	259.7	389.9	501.0
105°	59.9	61.9	65.3	72.7	83.4	97.2	120.3	164.0	245.0	363.9	494.5
107.5°	74.0	75.6	79.0	85.8	96.4	110.3	132.7	170.7	237.7	336.0	451.3
110°	83.4	85.4	88.4	94.8	105.0	119.3	140.9	176.2	236.2	322.6	424.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	92.1	94.1	97.4	103.4	113.3	127.9	148.8	182.2	236.6	313.9	405.4
115°	105.6	108.1	111.0	116.8	126.7	139.9	161.1	191.0	238.7	304.4	382.0
117.5°	119.5	121.5	124.4	129.7	139.1	152.8	172.4	200.4	242.2	299.8	367.3
120°	128.1	130.1	133.0	137.5	147.3	161.1	180.2	206.7	244.5	297.0	359.5
122.5°	136.4	138.0	140.9	145.8	155.6	169.7	187.7	212.2	247.3	295.5	352.8
125°	147.3	148.8	151.7	157.6	167.5	181.2	198.9	220.9	251.4	292.7	343.2
127.5°	155.9	157.9	162.0	168.5	178.0	192.1	209.3	229.1	255.6	291.0	334.4
130°	161.1	163.0	167.9	174.8	184.6	198.4	215.6	234.2	258.7	290.2	328.5
132.5°	165.7	168.2	173.4	180.7	190.9	204.7	221.0	239.4	261.9	289.8	323.7
135°	172.8	174.8	180.7	188.0	199.3	213.1	228.9	246.0	265.6	289.2	317.2
137.5°	179.5	181.8	187.8	195.6	206.8	219.6	235.1	251.1	269.0	289.1	312.5
140°	184.6	186.6	192.5	200.4	211.1	223.9	238.7	253.8	270.5	288.7	309.9
142.5°	189.8	191.3	196.8	204.7	215.1	227.0	241.4	256.2	271.7	288.7	307.1
145°	197.4	199.3	204.2	211.6	221.4	232.2	245.5	259.2	273.0	287.7	303.4
147.5°	205.6	207.1	211.8	218.6	226.8	236.3	248.8	261.0	273.4	285.9	299.7
150°	211.1	212.6	216.5	222.9	230.3	239.1	250.4	261.7	273.0	284.8	296.6
152.5°	216.6	217.3	221.3	226.9	233.8	241.9	252.0	262.1	272.2	282.8	293.9
155°	224.4	224.9	227.8	233.2	238.7	246.0	254.3	262.7	271.0	279.4	288.7
157.5°	230.8	231.4	233.8	238.4	242.8	248.9	256.0	262.7	268.8	275.9	283.9
160°	235.2	235.7	237.6	241.6	245.5	250.9	256.8	262.7	267.6	273.5	280.3
162.5°	239.5	239.2	241.2	244.4	247.9	252.1	257.2	262.3	266.4	271.6	277.2
165°	244.5	244.0	245.0	248.0	250.4	253.4	257.8	261.2	264.2	267.6	272.0
167.5°	248.7	248.1	248.9	250.8	252.6	254.4	257.7	260.5	261.9	264.2	266.9
170°	251.4	250.4	250.9	252.4	253.4	254.9	257.3	259.8	260.7	262.2	264.2
172.5°	253.0	252.4	252.1	253.6	254.2	255.2	256.9	258.6	259.2	259.8	261.4
175°	254.9	254.3	253.8	254.9	254.9	255.3	256.3	257.3	256.8	257.3	257.8
177.5°	255.7	254.9	254.5	255.3	255.3	255.3	255.7	256.5	255.7	255.3	255.7
180°	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3



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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°	12.1	11.4	11.1	10.9	10.8	10.6	10.4	10.2
90°	15.7	14.7	15.7	16.2	16.2	16.2	16.2	16.2
92.5°	42.8	36.8	32.6	29.5	29.2	27.6	28.0	27.2
95°	128.6	98.7	78.1	67.2	60.9	57.0	55.4	56.0
97.5°	300.2	245.6	192.5	157.0	133.5	121.5	114.3	110.2
100°	448.3	387.4	320.1	260.7	220.0	198.9	184.6	175.8
102.5°	545.4	531.6	482.4	419.4	375.1	339.1	321.3	309.4
105°	596.6	652.0	658.5	642.2	611.8	581.3	560.3	553.4
107.5°	559.6	643.3	694.3	718.1	721.9	720.2	716.0	706.9
110°	527.9	615.7	678.6	718.8	739.9	749.3	753.7	753.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	498.8	583.2	650.3	696.5	725.8	741.4	749.8	752.4
115°	463.0	538.6	603.0	653.6	688.4	711.0	723.8	728.1
117.5°	436.1	502.5	560.9	608.3	643.9	667.7	681.1	684.8
120°	422.8	483.6	535.7	580.4	614.8	637.8	652.0	656.9
122.5°	412.2	468.0	517.2	557.6	588.4	611.1	623.8	627.9
125°	396.7	447.3	490.5	527.4	555.9	574.5	586.8	590.7
127.5°	381.5	427.3	468.0	502.0	526.8	544.3	554.9	558.1
130°	371.7	414.0	452.7	485.1	509.2	525.9	535.7	539.6
132.5°	362.3	401.4	437.0	467.4	491.1	507.8	516.9	520.4
135°	349.1	381.5	414.0	441.4	462.5	478.7	487.6	489.6
137.5°	338.6	365.8	391.4	415.4	434.6	448.6	456.3	459.3
140°	331.9	355.5	378.1	399.7	415.4	428.2	435.5	438.5
142.5°	326.4	346.5	365.9	384.0	398.9	410.5	417.1	417.7
145°	318.7	334.8	350.1	364.4	376.1	384.4	389.3	390.8
147.5°	312.7	325.5	337.3	347.8	357.5	364.1	367.5	368.3
150°	308.3	319.2	329.5	338.3	345.7	351.5	354.5	355.0
152.5°	304.0	314.1	322.8	330.5	336.2	341.4	343.5	343.6
155°	298.1	305.9	313.2	318.7	324.1	327.5	329.5	328.5
157.5°	291.1	297.6	303.8	308.1	311.9	314.8	315.6	315.6
160°	286.7	292.1	297.6	301.0	304.4	306.9	307.4	307.4
162.5°	282.4	287.1	291.7	294.3	297.7	299.5	299.9	299.5
165°	276.0	279.4	282.8	284.8	286.7	288.7	288.7	288.3
167.5°	269.8	272.4	274.7	276.6	277.4	278.5	278.4	277.8
170°	266.7	268.1	270.1	271.0	271.6	273.0	272.5	271.6
172.5°	263.1	264.2	265.7	266.3	266.8	267.5	267.0	266.4
175°	259.2	259.8	260.3	260.7	260.7	261.2	260.7	259.8
177.5°	256.5	256.5	256.9	256.9	256.9	256.9	256.5	255.7
180°	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3

(END OF REPORT)