

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: P331266

Luminaire Tested: **SA2XXDIP-C290D725U835-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331266  
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-C290D725U835-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

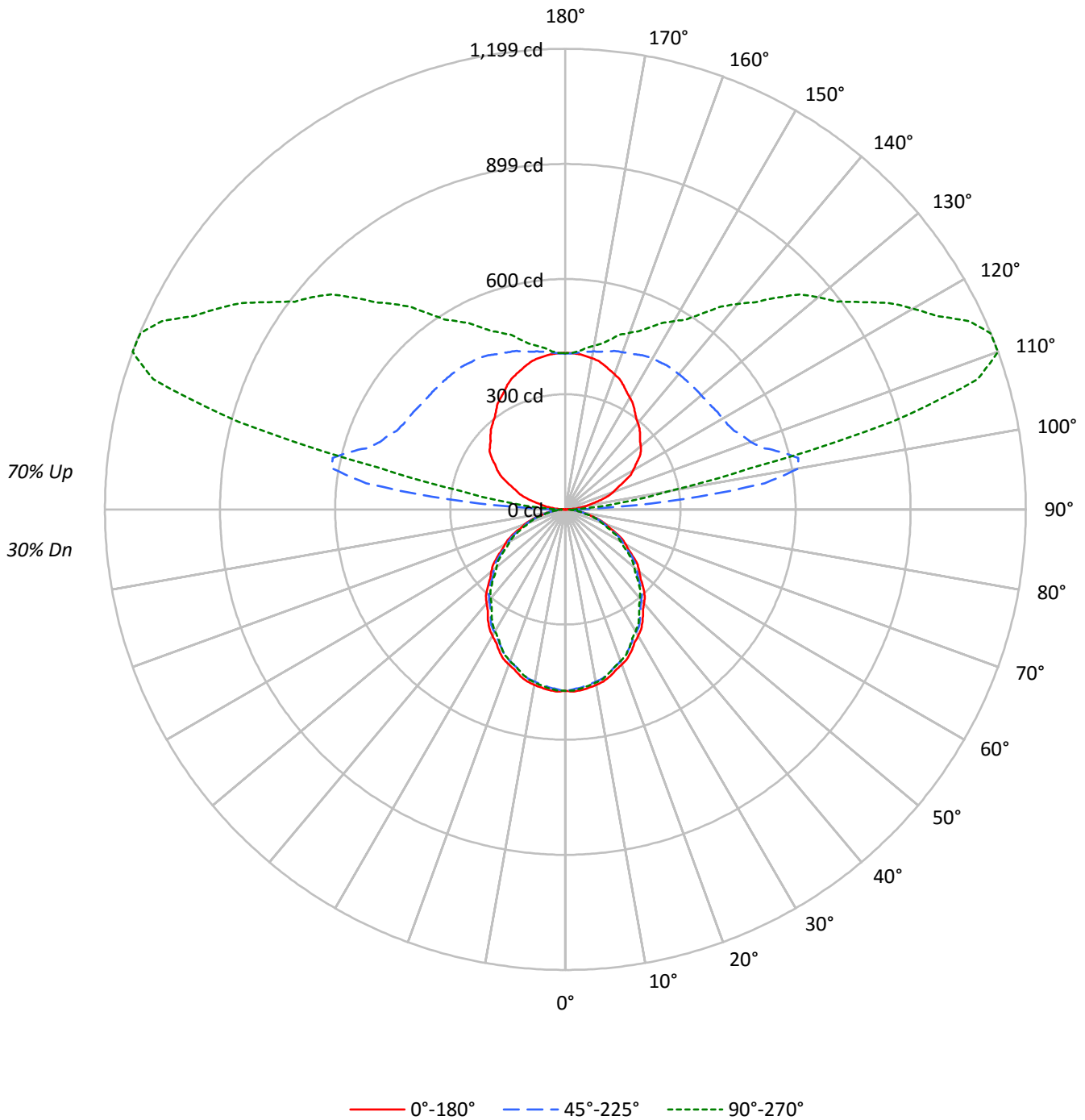
Lumens per Lamp: N/A  
Luminaire Lumens: 4034.2 lumens  
Efficiency: N/A  
Efficacy: 129.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 31.2  
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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	30
1	93	89	85	82	84	80	77	74	63	61	59	48	46	45	33	32	32	25
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27	21
3	77	68	61	56	69	61	55	51	49	44	41	37	34	32	26	24	23	18
4	71	60	53	47	63	54	48	43	43	39	35	33	30	27	23	21	20	15
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17	13
6	60	48	40	34	53	43	37	32	35	30	26	26	23	20	19	17	15	12
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13	10
8	51	39	32	26	46	35	29	24	28	24	20	22	18	16	16	14	12	9
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11	8
10	44	32	25	21	40	29	23	19	24	19	16	19	15	13	13	11	10	8

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

	0°	45°	90°
0°	7627	7627	7627
5°	7656	7546	7592
10°	7612	7470	7507
15°	7517	7373	7366
20°	7383	7228	7220
25°	7251	7049	7049
30°	7081	6885	6825
35°	6922	6688	6589
40°	6721	6492	6367
45°	6524	6295	6140
50°	6310	6094	5878
55°	6086	5858	5638
60°	5838	5574	5370
65°	5570	5295	5051
70°	5231	4952	4716
75°	4760	4560	4448
80°	4221	4100	3887
85°	3446	3279	2946



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.4	1.1
10°-20°	125.0	3.1
20°-30°	183.7	4.6
30°-40°	213.4	5.3
40°-50°	213.2	5.3
50°-60°	185.9	4.6
60°-70°	137.5	3.4
70°-80°	77.9	1.9
80°-90°	24.6	0.6
90°-100°	162.5	4.0
100°-110°	551.5	13.7
110°-120°	585.9	14.5
120°-130°	482.3	12.0
130°-140°	387.3	9.6
140°-150°	292.7	7.3
150°-160°	205.7	5.1
160°-170°	121.1	3.0
170°-180°	39.4	1.0
0°-30°	353.2	8.8
0°-40°	566.6	14.0
0°-60°	965.7	23.9
0°-90°	1205.6	29.9
90°-120°	1300.0	32.2
90°-150°	2462.4	61.0
90°-180°	2829.0	70.1
0°-180°	4034.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	472	470	466	469	468	45
15°	450	447	441	443	441	127
25°	407	403	396	396	396	187
35°	351	346	339	337	334	219
45°	286	282	276	271	269	220
55°	216	213	208	203	200	193
65°	146	143	139	135	132	144
75°	76	75	73	71	71	82
85°	19	18	18	16	16	21
90°	1	11	27	25	26	2
95°	27	67	306	116	89	29
105°	95	144	579	1035	881	101
115°	168	212	485	1000	1159	167
125°	234	278	466	810	940	208
135°	275	328	460	681	779	213
145°	314	361	458	569	622	197
155°	357	386	445	503	523	164
165°	389	401	426	452	459	110
175°	406	406	410	415	414	39
180°	406	406	406	406	406	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	474.6	474.2	473.8	473.4	473.0	472.4	471.5	470.6	469.7	468.8	469.6
5°	472.4	472.0	471.6	471.2	470.8	470.1	469.0	467.9	466.7	465.6	466.4
7.5°	468.3	467.6	467.0	466.4	465.8	464.9	463.8	462.6	461.5	460.4	461.2
10°	464.3	463.6	462.9	462.2	461.4	460.5	459.3	458.1	456.9	455.6	456.4
12.5°	458.8	458.2	457.6	456.9	456.3	455.4	454.2	453.0	451.8	450.6	451.1
15°	449.7	449.1	448.5	447.9	447.3	446.4	445.0	443.7	442.4	441.1	441.5
17.5°	438.1	437.5	436.9	436.3	435.7	434.7	433.4	432.0	430.7	429.4	429.8
20°	429.7	429.1	428.5	427.9	427.3	426.3	424.9	423.5	422.1	420.7	421.0
22.5°	421.4	420.5	419.7	418.8	418.0	416.9	415.6	414.2	412.9	411.6	411.6
25°	407.0	406.2	405.4	404.6	403.8	402.5	400.8	399.1	397.4	395.7	395.9
27.5°	390.7	390.0	389.2	388.5	387.8	386.7	385.4	384.0	382.7	381.3	381.0
30°	379.8	379.0	378.2	377.4	376.5	375.4	373.9	372.4	370.8	369.3	369.0
32.5°	368.1	367.5	366.9	366.2	365.6	364.4	362.8	361.3	359.7	358.1	357.5
35°	351.2	350.1	349.1	348.1	347.1	345.8	344.2	342.6	341.0	339.3	338.7
37.5°	332.0	331.1	330.2	329.3	328.4	327.2	325.6	324.0	322.3	320.7	320.0
40°	318.9	318.1	317.3	316.5	315.7	314.5	312.8	311.2	309.6	308.0	307.1
42.5°	306.2	305.4	304.6	303.8	303.0	301.7	300.1	298.5	296.9	295.3	294.3
45°	285.7	285.0	284.3	283.6	282.9	281.8	280.3	278.8	277.3	275.7	274.6
47.5°	265.4	264.7	264.1	263.4	262.7	261.6	260.0	258.5	256.9	255.3	254.1
50°	251.2	250.7	250.2	249.7	249.2	248.2	246.8	245.4	244.0	242.6	241.2
52.5°	237.4	236.7	236.1	235.4	234.7	233.7	232.4	231.1	229.7	228.4	227.2
55°	216.2	215.6	215.0	214.4	213.8	212.9	211.7	210.5	209.3	208.1	206.8
57.5°	195.0	194.5	194.0	193.5	193.0	192.1	190.8	189.5	188.1	186.8	185.6
60°	180.8	180.4	180.0	179.6	179.2	178.3	176.9	175.5	174.0	172.6	171.5
62.5°	167.0	166.3	165.7	165.1	164.4	163.5	162.4	161.4	160.3	159.2	158.1
65°	145.8	145.2	144.6	144.0	143.4	142.6	141.6	140.6	139.6	138.6	137.6
67.5°	124.3	123.8	123.3	122.8	122.4	121.7	120.7	119.8	118.9	118.0	117.3
70°	110.8	110.4	110.0	109.6	109.2	108.6	107.7	106.8	105.8	104.9	104.2
72.5°	97.0	96.6	96.2	95.8	95.4	94.9	94.3	93.8	93.2	92.6	91.9
75°	76.3	76.1	75.9	75.7	75.5	75.2	74.7	74.1	73.6	73.1	72.5
77.5°	57.8	57.4	57.1	56.8	56.4	56.1	55.9	55.7	55.5	55.3	55.0
80°	45.4	45.3	45.2	45.1	45.0	44.9	44.7	44.5	44.3	44.1	43.8
82.5°	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2	32.8
85°	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.8	17.7	17.4
87.5°	6.7	7.0	7.5	7.6	7.8	8.1	8.7	9.6	10.4	10.4	10.0
90°	0.8	3.1	6.3	7.8	9.4	11.7	15.6	21.1	25.8	26.6	25.8
92.5°	9.5	13.8	19.4	22.8	28.1	35.5	53.2	78.0	100.2	101.6	85.8
95°	27.4	30.5	38.3	45.3	57.8	76.6	112.6	180.6	271.3	306.4	268.1
97.5°	44.6	48.8	57.1	67.7	82.1	103.3	148.5	243.3	394.0	523.1	548.8
100°	60.2	62.5	69.6	82.1	97.7	119.6	161.0	256.4	425.2	617.5	730.1
102.5°	74.6	76.3	83.3	95.8	112.1	134.0	172.3	257.0	413.4	620.7	797.6
105°	95.4	98.5	104.0	115.7	132.9	154.8	191.5	261.1	390.1	579.2	787.2
107.5°	117.9	120.4	125.7	136.5	153.5	175.6	211.2	271.9	378.5	534.8	718.5
110°	132.9	136.0	140.7	150.9	167.3	190.0	224.3	280.6	376.0	513.6	675.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.6	149.8	155.1	164.6	180.4	203.7	236.9	290.0	376.6	499.8	645.4
115°	168.1	172.0	176.7	186.0	201.7	222.8	256.4	304.1	379.9	484.7	608.2
117.5°	190.3	193.4	198.1	206.4	221.4	243.3	274.4	319.1	385.5	477.3	584.7
120°	204.0	207.2	211.8	218.9	234.5	256.4	286.9	329.1	389.3	472.9	572.2
122.5°	217.2	219.7	224.3	232.0	247.6	270.2	298.8	337.9	393.7	470.4	561.6
125°	234.5	236.9	241.5	250.9	266.6	288.4	316.6	351.8	400.2	465.9	546.4
127.5°	248.3	251.4	258.0	268.3	283.3	305.8	333.2	364.7	407.0	463.2	532.3
130°	256.4	259.5	267.3	278.3	293.9	315.8	343.2	372.9	412.0	462.0	523.0
132.5°	263.9	267.7	276.1	287.7	303.9	325.8	351.9	381.0	417.0	461.4	515.5
135°	275.2	278.3	287.7	299.4	317.4	339.3	364.3	391.6	422.9	460.4	505.0
137.5°	285.8	289.5	298.9	311.4	329.3	349.6	374.3	399.8	428.2	460.3	497.6
140°	293.9	297.0	306.4	318.9	336.1	356.5	379.9	404.1	430.7	459.6	493.3
142.5°	302.0	304.6	313.3	325.8	342.4	361.5	384.3	407.9	432.6	459.6	488.9
145°	314.2	317.4	325.2	336.9	352.5	369.7	390.9	412.7	434.6	458.1	483.1
147.5°	327.4	329.7	337.2	348.0	361.0	376.3	396.2	415.4	435.3	455.3	477.2
150°	336.1	338.5	344.7	354.9	366.6	380.7	398.7	416.6	434.6	453.4	472.1
152.5°	344.9	346.0	352.2	361.1	372.2	385.1	401.2	417.3	433.4	450.3	467.8
155°	357.2	358.0	362.7	371.3	379.9	391.6	404.9	418.2	431.5	444.8	459.6
157.5°	367.6	368.3	372.1	379.6	386.5	396.3	407.6	418.2	427.9	439.2	452.0
160°	374.4	375.2	378.3	384.6	390.9	399.4	408.8	418.2	426.0	435.4	446.4
162.5°	381.3	380.8	384.0	389.0	394.6	401.3	409.5	417.6	424.2	432.3	441.3
165°	389.3	388.5	390.1	394.8	398.7	403.4	410.4	415.9	420.6	426.0	433.1
167.5°	395.9	394.9	396.3	399.3	402.1	405.1	410.2	414.8	417.0	420.6	424.9
170°	400.2	398.7	399.4	401.8	403.4	405.7	409.6	413.5	415.1	417.4	420.6
172.5°	402.7	401.8	401.3	403.7	404.6	406.3	409.0	411.6	412.6	413.7	416.2
175°	405.7	404.9	404.1	405.7	405.7	406.5	408.0	409.6	408.8	409.6	410.4
177.5°	407.1	405.9	405.2	406.5	406.5	406.5	407.1	408.4	407.1	406.5	407.1
180°	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	470.4	471.2	472.0	472.4	472.2	472.0	471.9	471.7
5°	467.3	468.1	468.9	469.2	469.0	468.8	468.6	468.4
7.5°	462.0	462.8	463.6	463.9	463.7	463.4	463.2	463.0
10°	457.3	458.1	458.9	459.1	458.8	458.5	458.2	457.9
12.5°	451.7	452.2	452.8	453.0	452.8	452.5	452.3	452.1
15°	441.9	442.3	442.7	442.7	442.2	441.7	441.2	440.7
17.5°	430.3	430.8	431.2	431.2	430.7	430.3	429.8	429.3
20°	421.3	421.6	421.9	421.8	421.4	421.0	420.6	420.2
22.5°	411.7	411.8	411.8	411.7	411.5	411.2	411.0	410.8
25°	396.1	396.3	396.5	396.5	396.3	396.1	395.9	395.7
27.5°	380.7	380.4	380.1	379.7	379.2	378.7	378.3	377.8
30°	368.7	368.4	368.1	367.8	367.4	367.0	366.6	366.1
32.5°	357.0	356.4	355.9	355.4	355.0	354.6	354.2	353.8
35°	338.1	337.5	336.9	336.4	335.9	335.4	334.9	334.3
37.5°	319.2	318.5	317.7	317.1	316.6	316.1	315.7	315.2
40°	306.2	305.3	304.4	303.7	303.3	302.9	302.5	302.1
42.5°	293.3	292.3	291.3	290.5	290.0	289.4	288.9	288.3
45°	273.5	272.4	271.3	270.5	270.1	269.7	269.3	268.9
47.5°	253.0	251.8	250.6	249.7	249.2	248.6	248.0	247.4
50°	239.8	238.3	236.9	236.0	235.5	235.0	234.5	234.0
52.5°	226.1	224.9	223.7	222.8	222.1	221.5	220.8	220.1
55°	205.6	204.4	203.2	202.4	201.9	201.3	200.8	200.3
57.5°	184.4	183.2	182.0	181.2	180.9	180.5	180.1	179.7
60°	170.4	169.3	168.2	167.5	167.2	166.9	166.6	166.3
62.5°	157.1	156.1	155.1	154.4	154.0	153.6	153.2	152.8
65°	136.7	135.8	134.9	134.2	133.7	133.2	132.7	132.2
67.5°	116.6	115.9	115.2	114.6	114.2	113.8	113.4	113.0
70°	103.5	102.8	102.1	101.6	101.2	100.7	100.3	99.9
72.5°	91.2	90.5	89.8	89.2	88.9	88.6	88.3	87.9
75°	71.9	71.3	70.7	70.5	70.7	70.9	71.1	71.3
77.5°	54.7	54.4	54.1	53.8	53.5	53.3	53.0	52.7
80°	43.5	43.2	42.9	42.6	42.4	42.2	42.0	41.8
82.5°	32.4	32.0	31.6	31.4	31.4	31.3	31.3	31.3
85°	17.1	16.8	16.5	16.3	16.2	16.1	16.0	15.9
87.5°	9.6	9.1	9.1	9.1	9.0	9.0	8.9	8.8
90°	25.0	23.5	25.0	25.8	25.8	25.8	25.8	25.8
92.5°	68.2	58.5	51.9	47.1	46.4	43.9	44.6	43.3
95°	204.8	157.1	124.3	107.1	96.9	90.7	88.3	89.1
97.5°	477.9	391.0	306.4	250.0	212.6	193.4	182.0	175.4
100°	713.7	616.8	509.7	415.1	350.2	316.6	293.9	279.8
102.5°	868.2	846.3	767.9	667.7	597.2	539.8	511.5	492.5
105°	949.8	1038.1	1048.3	1022.5	974.0	925.5	891.9	881.0
107.5°	891.0	1024.0	1105.3	1143.2	1149.3	1146.6	1139.9	1125.3
110°	840.3	980.3	1080.3	1144.4	1178.0	1192.9	1199.9	1199.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	794.1	928.3	1035.3	1108.8	1155.5	1180.4	1193.7	1197.9
115°	737.1	857.5	959.9	1040.4	1095.9	1131.9	1152.2	1159.3
117.5°	694.3	800.0	892.9	968.4	1025.0	1063.0	1084.4	1090.3
120°	673.0	770.0	852.8	924.0	978.7	1015.4	1038.1	1045.9
122.5°	656.2	745.0	823.4	887.7	936.8	972.9	993.1	999.6
125°	631.6	712.1	780.9	839.5	884.9	914.6	934.1	940.4
127.5°	607.4	680.2	745.1	799.2	838.8	866.6	883.5	888.5
130°	591.7	659.0	720.7	772.3	810.6	837.2	852.8	859.1
132.5°	576.7	639.0	695.7	744.2	781.9	808.4	822.8	828.4
135°	555.8	607.4	659.0	702.7	736.4	762.2	776.2	779.4
137.5°	539.1	582.2	623.2	661.3	692.0	714.2	726.5	731.2
140°	528.4	566.0	601.9	636.3	661.3	681.6	693.4	698.1
142.5°	519.7	551.6	582.5	611.3	635.1	653.5	664.0	664.9
145°	507.3	533.1	557.4	580.0	598.8	612.1	619.9	622.2
147.5°	497.8	518.1	537.0	553.6	569.1	579.7	585.0	586.4
150°	490.9	508.1	524.5	538.6	550.3	559.7	564.4	565.2
152.5°	484.0	500.0	513.9	526.1	535.3	543.4	546.9	547.0
155°	474.5	487.0	498.7	507.3	515.9	521.4	524.5	523.0
157.5°	463.4	473.9	483.7	490.4	496.5	501.1	502.5	502.5
160°	456.5	465.1	473.7	479.2	484.7	488.6	489.3	489.3
162.5°	449.6	457.0	464.3	468.6	474.0	476.7	477.5	476.8
165°	439.3	444.8	450.3	453.4	456.5	459.6	459.6	458.9
167.5°	429.5	433.7	437.4	440.3	441.7	443.4	443.2	442.3
170°	424.5	426.8	429.9	431.5	432.3	434.6	433.8	432.3
172.5°	418.8	420.6	423.1	424.0	424.8	425.9	425.1	424.2
175°	412.7	413.5	414.3	415.1	415.1	415.9	415.1	413.5
177.5°	408.4	408.4	409.0	409.0	409.0	409.0	408.4	407.1
180°	406.5	406.5	406.5	406.5	406.5	406.5	406.5	406.5

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