

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: P331631-840

Luminaire Tested: **SA2XXRDIP-C290D725U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331631-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C290D725U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 725 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

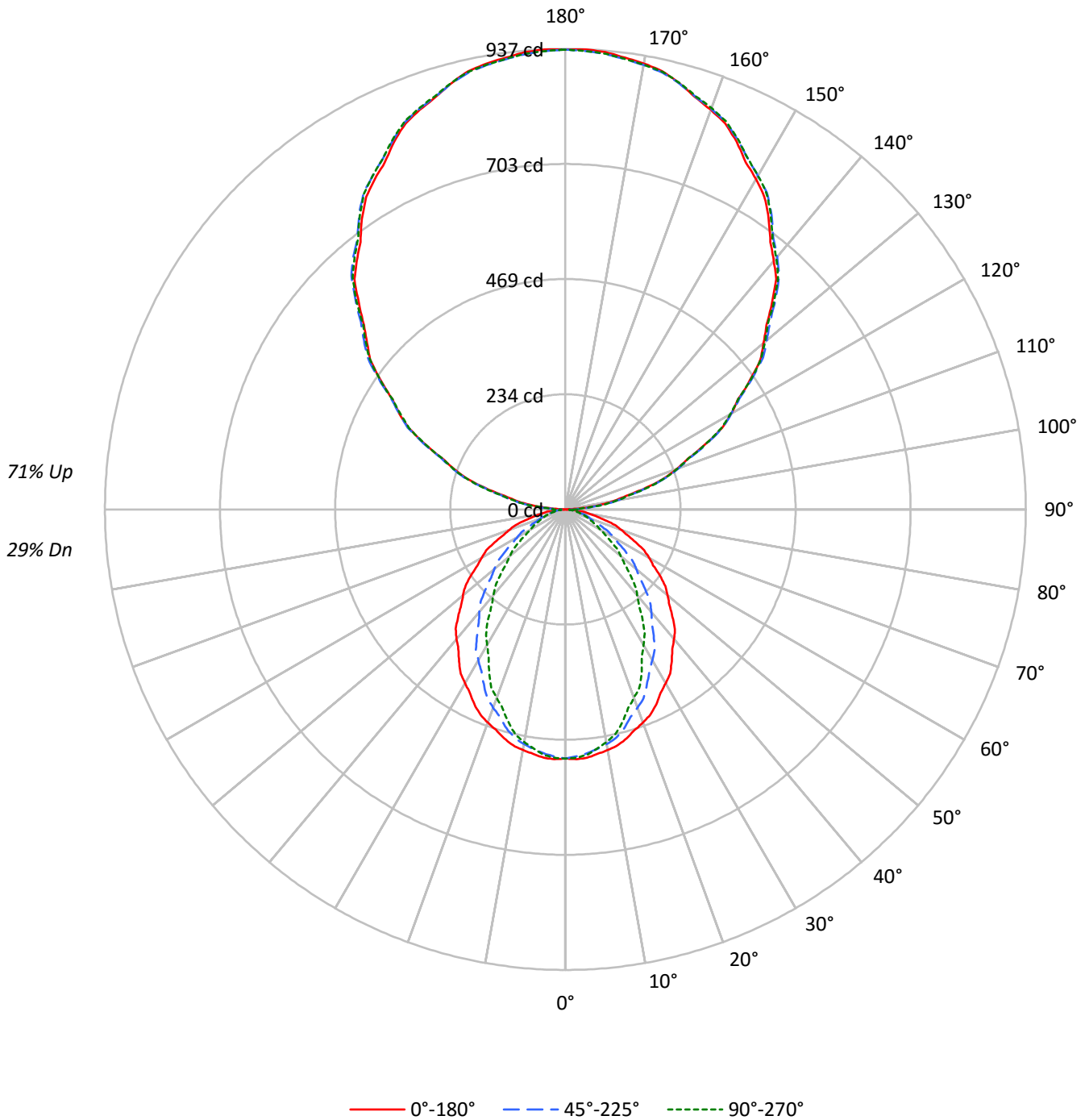
Lumens per Lamp: N/A  
Luminaire Lumens: 3661.9 lumens  
Efficiency: N/A  
Efficacy: 117.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 31.2  
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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29				
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25				
2	85	78	72	67	76	70	65	61	55	52	49	42	40	38	29	28	27	21				
3	78	69	62	56	69	62	56	51	49	45	42	37	34	32	26	24	23	18				
4	71	61	54	48	64	55	49	44	44	39	36	33	30	28	23	21	20	16				
5	65	54	47	41	58	49	42	38	39	34	31	30	27	24	21	19	18	14				
6	60	49	41	35	54	44	37	33	35	30	27	27	24	21	19	17	16	12				
7	56	44	36	31	50	40	33	29	32	27	24	25	21	19	18	16	14	11				
8	51	40	32	27	46	36	30	25	29	24	21	22	19	17	16	14	13	10				
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9				
10	45	33	26	22	40	30	24	20	24	20	17	19	16	14	14	12	10	8				

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

	0°	45°	90°
0°	8186	8186	8186
5°	8217	8083	8126
10°	8153	7950	7883
15°	8058	7714	7492
20°	7930	7378	7009
25°	7798	6996	6538
30°	7612	6604	5936
35°	7433	6177	5409
40°	7253	5735	4795
45°	7040	5236	4242
50°	6822	4735	3697
55°	6598	4197	3178
60°	6339	3630	2638
65°	6044	3049	2399
70°	5698	2511	2209
75°	5265	2289	2059
80°	4649	2046	1878
85°	3649	1612	1612



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.4	1.3
10°-20°	130.3	3.6
20°-30°	183.0	5.0
30°-40°	199.5	5.4
40°-50°	183.4	5.0
50°-60°	144.1	3.9
60°-70°	93.9	2.6
70°-80°	48.4	1.3
80°-90°	16.3	0.4
90°-100°	59.3	1.6
100°-110°	184.1	5.0
110°-120°	314.7	8.6
120°-130°	413.8	11.3
130°-140°	464.4	12.7
140°-150°	455.4	12.4
150°-160°	382.0	10.4
160°-170°	253.3	6.9
170°-180°	88.5	2.4
0°-30°	360.7	9.8
0°-40°	560.2	15.3
0°-60°	887.7	24.2
0°-90°	1046.4	28.6
90°-120°	558.0	15.2
90°-150°	1891.7	51.7
90°-180°	2616.0	71.4
0°-180°	3661.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	507	507	507	507	507	
5°	507	504	499	502	501	48
15°	482	476	462	453	448	136
25°	438	422	393	375	367	201
35°	377	353	313	285	274	236
45°	308	277	229	198	186	238
55°	234	198	149	123	113	209
65°	158	121	80	65	63	157
75°	84	53	37	34	33	89
85°	20	11	9	9	9	23
90°	1	11	28	26	27	3
95°	41	49	50	50	49	47
105°	170	172	174	175	175	179
115°	316	320	319	318	316	312
125°	459	466	464	462	461	410
135°	594	603	605	604	602	459
145°	721	727	732	732	729	451
155°	825	827	830	833	831	380
165°	898	897	897	902	898	253
175°	934	932	930	935	931	89
180°	935	935	935	935	935	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	508.8	508.4	508.0	507.6	507.2	506.4	505.5	504.7	503.8	502.9	503.7
5°	507.0	506.4	505.9	505.4	504.9	503.9	502.6	501.3	500.0	498.7	499.6
7.5°	501.7	501.1	500.4	499.8	499.2	498.1	496.6	494.9	493.4	491.9	492.1
10°	497.3	496.6	495.8	495.1	494.4	493.0	491.0	489.0	487.0	484.9	484.6
12.5°	491.8	490.9	490.0	489.2	488.3	486.6	483.9	481.3	478.7	476.1	475.5
15°	482.1	481.0	479.9	478.8	477.7	475.3	471.9	468.5	464.9	461.5	459.6
17.5°	470.3	468.6	466.9	465.1	463.4	460.4	456.0	451.5	447.1	442.6	440.3
20°	461.5	459.5	457.5	455.3	453.3	449.8	444.6	439.6	434.5	429.4	426.9
22.5°	452.0	449.7	447.4	445.1	442.8	438.8	433.0	427.3	421.6	415.9	412.5
25°	437.7	434.3	431.1	427.9	424.6	419.6	412.8	406.2	399.4	392.7	388.5
27.5°	420.4	416.9	413.3	409.8	406.2	400.6	393.0	385.5	377.9	370.3	365.5
30°	408.3	404.5	400.5	396.7	392.8	386.8	378.6	370.5	362.3	354.2	349.0
32.5°	396.6	392.0	387.5	382.9	378.4	372.0	363.8	355.4	347.1	338.7	332.9
35°	377.1	371.9	366.7	361.5	356.3	349.2	340.2	331.2	322.3	313.4	306.9
37.5°	357.7	351.9	346.2	340.5	334.8	327.2	317.6	308.0	298.5	288.9	281.9
40°	344.1	338.0	331.8	325.7	319.6	311.6	301.7	291.9	282.0	272.1	264.8
42.5°	330.1	323.7	317.2	310.8	304.4	296.0	285.8	275.6	265.4	255.2	247.7
45°	308.3	301.4	294.6	287.8	280.9	272.2	261.5	250.7	240.0	229.3	222.2
47.5°	287.0	279.7	272.6	265.3	258.0	248.9	237.8	226.8	215.7	204.7	197.5
50°	271.6	264.4	257.1	249.8	242.7	233.4	222.2	211.0	199.8	188.5	181.5
52.5°	256.5	248.9	241.5	233.9	226.3	217.0	206.0	195.1	184.1	173.1	166.3
55°	234.4	226.5	218.5	210.6	202.6	193.2	182.1	171.1	160.1	149.1	143.0
57.5°	211.8	203.6	195.4	187.3	179.2	169.8	159.2	148.7	138.0	127.4	121.8
60°	196.3	188.2	180.1	171.9	163.7	154.4	143.9	133.4	122.9	112.4	107.1
62.5°	181.3	173.2	165.0	156.8	148.7	139.6	129.6	119.6	109.6	99.6	94.6
65°	158.2	150.0	141.8	133.5	125.2	116.5	107.3	98.2	89.0	79.8	76.3
67.5°	136.0	127.8	119.7	111.5	103.3	95.0	86.7	78.6	70.3	62.0	60.4
70°	120.7	112.7	104.7	96.8	88.9	81.4	74.3	67.3	60.3	53.2	52.2
72.5°	105.9	98.4	90.7	83.1	75.4	68.9	63.2	57.6	51.9	46.3	45.3
75°	84.4	77.3	70.2	63.0	55.8	50.6	47.1	43.6	40.2	36.7	36.0
77.5°	63.2	57.0	50.7	44.4	38.2	34.2	32.5	30.9	29.2	27.6	27.2
80°	50.0	44.8	39.6	34.4	29.2	26.1	25.0	24.0	23.0	22.0	21.6
82.5°	37.9	33.8	29.8	25.8	21.7	19.3	18.6	17.9	17.2	16.6	16.3
85°	19.7	17.6	15.5	13.3	11.2	9.9	9.6	9.3	9.0	8.7	8.7
87.5°	6.1	5.8	5.6	5.4	5.2	5.4	6.2	7.0	7.7	8.5	8.3
90°	0.8	2.9	5.0	7.1	9.2	12.2	16.1	19.9	23.7	27.7	27.3
92.5°	14.0	15.6	17.2	18.7	20.2	21.4	22.3	23.2	24.2	25.1	25.1
95°	41.0	42.8	44.5	46.4	48.1	49.1	49.5	49.8	50.2	50.5	50.5
97.5°	75.0	76.5	78.1	79.6	81.2	82.3	82.9	83.6	84.2	84.9	84.9
100°	100.3	101.7	103.0	104.4	105.8	106.8	107.3	107.9	108.4	109.0	109.0
102.5°	126.7	127.8	129.1	130.2	131.3	132.2	132.8	133.5	134.1	134.8	134.9
105°	169.8	170.3	170.8	171.3	171.8	172.3	172.6	173.0	173.3	173.7	174.0
107.5°	213.0	213.8	214.5	215.3	216.0	216.4	216.4	216.4	216.4	216.4	216.6
110°	240.8	241.8	242.9	243.9	245.0	245.5	245.5	245.5	245.5	245.5	245.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	271.0	272.2	273.2	274.2	275.3	275.7	275.6	275.5	275.3	275.2	274.8
115°	315.8	316.8	317.8	318.9	319.9	320.3	319.9	319.6	319.2	318.9	318.7
117.5°	360.2	361.6	363.0	364.5	365.9	366.1	365.1	364.2	363.1	362.1	361.7
120°	389.9	391.3	392.7	394.2	395.6	395.6	394.2	392.7	391.3	389.9	389.9
122.5°	417.1	418.8	420.5	422.1	423.8	424.1	423.2	422.2	421.2	420.2	419.8
125°	459.4	461.0	462.5	464.1	465.7	466.3	465.7	465.1	464.6	464.1	463.6
127.5°	500.6	502.6	504.6	506.6	508.6	509.3	508.7	508.1	507.4	506.8	506.1
130°	526.5	528.8	531.1	533.3	535.6	536.5	536.2	535.8	535.5	535.2	534.8
132.5°	555.5	557.4	559.3	561.1	563.0	563.9	564.0	564.1	564.1	564.2	563.5
135°	594.4	596.3	598.2	600.2	602.1	603.2	603.6	603.9	604.3	604.6	604.5
137.5°	635.3	636.8	638.4	640.1	641.6	642.6	643.1	643.5	644.0	644.4	644.3
140°	659.9	661.5	663.1	664.6	666.2	667.4	668.3	669.2	670.0	671.0	671.0
142.5°	685.2	686.7	688.3	689.9	691.5	692.6	693.2	693.8	694.4	695.0	695.1
145°	721.4	722.7	724.0	725.2	726.4	727.5	728.6	729.6	730.6	731.7	732.0
147.5°	753.9	755.3	756.8	758.2	759.7	760.8	761.5	762.2	763.0	763.7	764.0
150°	776.0	777.0	778.0	779.1	780.1	781.0	781.7	782.4	783.2	783.9	784.4
152.5°	795.5	796.6	797.6	798.7	799.7	800.6	801.5	802.3	803.1	804.1	804.7
155°	824.9	825.4	826.0	826.5	827.0	827.5	828.0	828.6	829.1	829.6	830.5
157.5°	850.0	850.3	850.7	851.0	851.4	851.7	852.0	852.3	852.6	852.9	854.1
160°	865.2	865.5	865.9	866.2	866.6	866.8	867.0	867.2	867.4	867.5	868.6
162.5°	879.0	879.1	879.2	879.2	879.3	879.4	879.6	879.8	880.0	880.1	881.3
165°	897.5	897.4	897.2	897.0	896.8	896.7	896.7	896.7	896.7	896.7	898.0
167.5°	912.9	912.4	911.9	911.4	910.9	910.6	910.6	910.5	910.5	910.4	911.7
170°	921.2	920.7	920.1	919.6	919.1	918.7	918.6	918.4	918.2	918.0	919.3
172.5°	926.9	926.3	925.8	925.2	924.7	924.4	924.2	924.0	923.9	923.7	924.9
175°	933.8	933.3	932.7	932.2	931.7	931.3	930.9	930.6	930.2	929.9	931.1
177.5°	936.6	936.2	935.8	935.3	934.9	934.6	934.3	934.0	933.7	933.5	934.3
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	504.5	505.3	506.1	506.4	506.3	506.1	505.9	505.8
5°	500.5	501.4	502.3	502.6	502.3	502.0	501.7	501.4
7.5°	492.4	492.7	492.9	492.8	492.3	491.7	491.2	490.7
10°	484.3	484.0	483.7	483.2	482.6	482.0	481.4	480.8
12.5°	475.0	474.4	473.9	473.1	472.1	471.1	470.1	469.1
15°	457.7	455.7	453.7	452.3	451.3	450.2	449.2	448.2
17.5°	438.0	435.7	433.4	431.4	429.6	427.9	426.1	424.3
20°	424.3	421.7	419.2	416.8	414.5	412.3	410.1	407.9
22.5°	409.3	406.0	402.7	400.2	398.5	396.9	395.2	393.5
25°	384.4	380.1	376.0	373.1	371.6	370.0	368.5	367.0
27.5°	360.5	355.7	350.8	347.2	344.8	342.3	339.9	337.5
30°	343.8	338.6	333.4	329.4	326.6	323.9	321.1	318.4
32.5°	326.9	320.9	315.0	310.7	308.2	305.6	303.0	300.4
35°	300.5	294.1	287.6	283.3	281.0	278.8	276.6	274.4
37.5°	274.8	267.7	260.6	255.8	253.3	250.6	248.1	245.5
40°	257.6	250.3	243.1	238.1	235.5	232.9	230.1	227.5
42.5°	240.1	232.7	225.2	220.3	217.6	215.1	212.5	210.0
45°	214.9	207.6	200.5	195.6	193.2	190.7	188.2	185.8
47.5°	190.3	183.1	175.9	171.2	169.0	166.7	164.5	162.3
50°	174.5	167.4	160.4	155.8	153.7	151.6	149.4	147.2
52.5°	159.6	152.8	146.0	141.6	139.7	137.6	135.6	133.7
55°	136.8	130.8	124.6	120.6	118.7	116.7	114.8	112.9
57.5°	116.2	110.6	105.0	101.4	99.8	98.2	96.5	94.8
60°	102.0	96.8	91.6	88.2	86.5	84.9	83.3	81.7
62.5°	89.7	84.7	79.8	76.7	75.7	74.8	73.8	72.8
65°	72.9	69.4	65.9	64.0	63.7	63.4	63.1	62.8
67.5°	58.9	57.3	55.6	54.7	54.3	54.0	53.7	53.4
70°	51.2	50.2	49.2	48.5	48.0	47.6	47.2	46.8
72.5°	44.5	43.6	42.8	42.3	42.0	41.8	41.5	41.3
75°	35.2	34.5	33.8	33.4	33.3	33.2	33.1	33.0
77.5°	26.7	26.3	25.9	25.7	25.4	25.2	25.1	24.9
80°	21.2	20.8	20.4	20.2	20.2	20.2	20.2	20.2
82.5°	16.1	15.8	15.6	15.5	15.5	15.5	15.5	15.5
85°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
87.5°	8.2	8.0	7.9	7.8	7.9	7.9	7.9	8.0
90°	27.0	26.6	26.3	26.2	26.4	26.5	26.7	26.9
92.5°	25.2	25.3	25.3	25.4	25.4	25.5	25.5	25.5
95°	50.5	50.5	50.5	50.4	50.0	49.7	49.3	49.0
97.5°	84.9	84.9	84.9	84.9	84.9	84.8	84.8	84.7
100°	109.0	109.0	109.0	108.9	108.7	108.5	108.4	108.2
102.5°	135.1	135.2	135.4	135.3	135.2	135.0	134.8	134.6
105°	174.4	174.7	175.1	175.2	175.2	175.2	175.2	175.2
107.5°	216.7	216.8	217.0	216.7	215.9	215.1	214.3	213.5
110°	245.5	245.5	245.5	245.2	244.7	244.2	243.7	243.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	274.3	273.9	273.5	273.1	272.7	272.3	272.0	271.6
115°	318.5	318.4	318.2	317.8	317.3	316.8	316.3	315.8
117.5°	361.3	360.9	360.4	360.0	359.5	358.9	358.4	357.9
120°	389.9	389.9	389.9	389.7	389.1	388.6	388.1	387.6
122.5°	419.4	419.0	418.6	418.2	417.8	417.4	417.0	416.7
125°	463.1	462.5	462.0	461.7	461.5	461.3	461.2	461.0
127.5°	505.5	504.8	504.2	503.6	503.1	502.5	502.0	501.4
130°	534.5	534.1	533.8	533.2	532.5	531.9	531.2	530.5
132.5°	562.7	561.9	561.2	560.5	559.9	559.4	558.8	558.3
135°	604.3	604.1	603.9	603.6	603.1	602.6	602.0	601.5
137.5°	644.2	644.0	643.9	643.5	642.8	642.1	641.4	640.7
140°	671.0	671.0	671.0	670.6	669.9	669.2	668.5	667.8
142.5°	695.2	695.4	695.5	695.2	694.5	693.8	693.2	692.5
145°	732.1	732.3	732.5	732.2	731.4	730.7	730.0	729.3
147.5°	764.4	764.8	765.2	765.1	764.4	763.7	763.1	762.3
150°	784.9	785.4	786.0	786.0	785.4	784.9	784.4	783.9
152.5°	805.4	806.1	806.7	806.7	806.1	805.4	804.7	804.1
155°	831.3	832.2	833.1	833.3	832.7	832.2	831.7	831.2
157.5°	855.4	856.6	857.8	857.9	857.1	856.3	855.4	854.5
160°	869.6	870.7	871.7	871.9	871.2	870.5	869.8	869.1
162.5°	882.5	883.7	884.9	885.0	884.2	883.4	882.5	881.7
165°	899.2	900.4	901.6	901.8	900.9	900.0	899.2	898.3
167.5°	912.9	914.1	915.3	915.5	914.6	913.7	912.8	911.9
170°	920.5	921.7	922.9	923.0	922.0	920.9	919.9	918.8
172.5°	926.1	927.4	928.6	928.7	927.7	926.6	925.5	924.5
175°	932.3	933.5	934.7	934.8	933.8	932.7	931.7	930.7
177.5°	935.1	936.0	936.9	936.9	936.0	935.1	934.3	933.5
180°	935.3	935.3	935.3	935.3	935.3	935.3	935.3	935.3

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