

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: P331380-940

Luminaire Tested: **S122DIP-S865D330U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331380-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S865D330U940-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

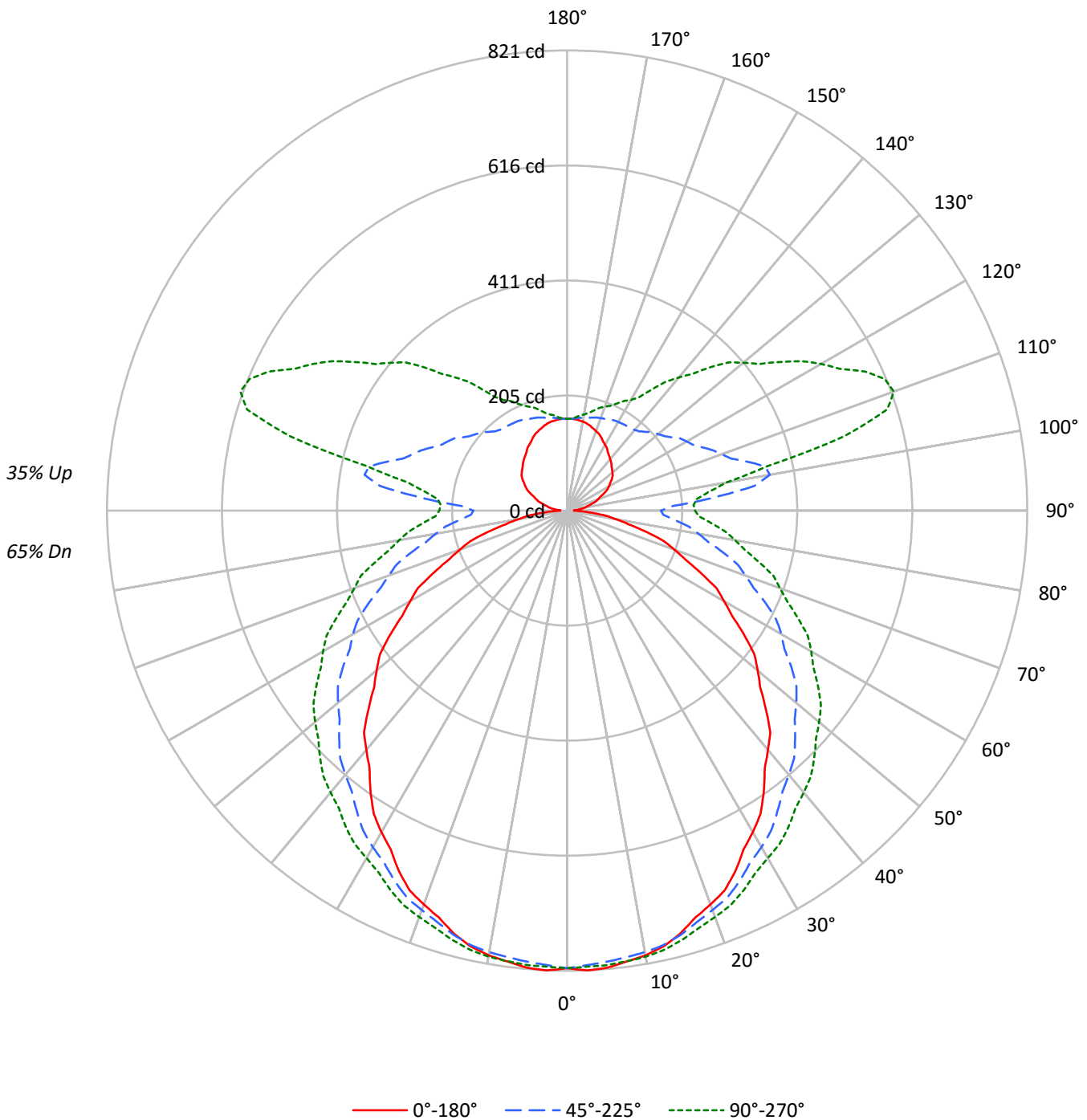
Lumens per Lamp: N/A  
Luminaire Lumens: 4256.3 lumens  
Efficiency: N/A  
Efficacy: 97.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct  
  
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input 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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65				
1	99	94	89	85	93	88	84	80	78	74	71	68	65	63	59	57	55	51				
2	90	81	74	68	84	76	70	64	67	62	58	58	55	51	51	48	45	41				
3	81	71	62	56	76	66	59	53	58	52	48	51	46	42	44	41	37	34				
4	74	62	53	47	69	58	51	44	52	45	40	45	40	36	39	35	32	28				
5	68	55	46	40	63	52	44	38	46	39	34	40	35	31	35	31	27	24				
6	62	49	41	34	58	47	39	33	41	35	30	36	31	27	32	27	24	21				
7	58	45	36	30	54	42	34	29	37	31	26	33	28	24	29	24	21	19				
8	54	40	32	26	50	38	31	25	34	28	23	30	25	21	26	22	19	16				
9	50	37	29	24	47	35	28	23	31	25	21	28	22	19	24	20	17	15				
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	18	15	13				

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

	0°	45°	90°
0°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.4	1.8
10°-20°	221.8	5.2
20°-30°	336.2	7.9
30°-40°	409.5	9.6
40°-50°	440.5	10.3
50°-60°	427.8	10.1
60°-70°	373.5	8.8
70°-80°	287.6	6.8
80°-90°	194.5	4.6
90°-100°	198.5	4.7
100°-110°	319.4	7.5
110°-120°	300.3	7.1
120°-130°	230.2	5.4
130°-140°	171.1	4.0
140°-150°	120.6	2.8
150°-160°	82.9	1.9
160°-170°	48.8	1.1
170°-180°	15.9	0.4
0°-30°	635.4	14.9
0°-40°	1044.8	24.5
0°-60°	1913.1	44.9
0°-90°	2768.7	65.0
90°-120°	818.1	19.2
90°-150°	1340.0	31.5
90°-180°	1488.0	35.0
0°-180°	4256.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	12	85	167	212	228	9
95°	20	93	260	226	231	19
105°	44	100	335	559	511	48
115°	72	106	266	508	587	71
125°	97	116	228	398	462	86
135°	112	134	199	311	361	87
145°	127	146	185	236	264	80
155°	144	155	179	203	211	66
165°	157	162	172	182	185	44
175°	164	164	165	167	167	16
180°	164	164	164	164	164	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.3	39.1	55.0	70.8	86.7	103.1	120.2	137.5	154.7	171.6	182.3
90°	12.1	28.4	44.9	60.7	76.6	93.6	112.0	131.1	149.7	166.9	177.1
92.5°	14.7	30.6	47.1	62.7	79.0	97.2	120.5	146.7	171.8	188.6	192.6
95°	20.5	34.2	49.6	64.8	82.2	103.9	134.1	177.3	229.6	259.6	254.1
97.5°	26.2	39.0	53.2	68.6	85.3	107.0	140.4	193.7	269.6	336.7	356.8
100°	32.5	43.2	55.8	70.5	86.6	107.6	139.0	192.3	275.0	367.2	422.3
102.5°	37.4	47.0	58.7	72.6	88.1	108.5	138.2	186.7	264.0	361.9	442.7
105°	44.3	53.2	63.0	75.4	90.0	109.4	137.9	179.7	245.3	335.2	428.2
107.5°	53.2	60.3	68.6	79.0	91.9	110.5	137.9	175.5	231.5	307.6	390.5
110°	58.3	64.8	72.0	81.3	93.2	111.4	138.1	173.7	225.1	293.4	367.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.8	69.6	76.1	84.4	95.1	112.8	138.5	172.1	219.3	281.2	348.3
115°	72.5	77.0	81.7	88.4	97.6	113.4	138.8	169.9	212.3	266.4	324.0
117.5°	80.3	83.4	87.2	92.4	100.3	115.6	139.1	168.0	205.7	253.7	304.8
120°	85.8	88.1	91.0	95.0	102.3	116.9	139.7	167.2	202.0	246.2	293.6
122.5°	91.0	92.5	94.8	98.4	105.0	119.3	140.7	166.3	198.7	239.5	283.4
125°	96.9	97.8	99.7	103.5	109.8	122.8	142.6	165.1	193.1	228.0	267.6
127.5°	102.5	103.4	105.8	109.7	115.5	127.9	145.6	165.1	189.0	218.4	252.8
130°	105.7	106.7	109.6	113.8	119.8	131.3	147.8	165.2	186.5	212.2	243.1
132.5°	108.7	109.9	113.2	117.5	123.8	134.6	149.5	165.4	184.1	206.3	234.2
135°	112.1	113.3	117.2	121.9	129.1	139.2	151.9	165.6	180.8	198.6	222.0
137.5°	116.4	117.8	121.5	126.5	133.7	142.4	153.6	165.0	177.6	191.6	211.6
140°	119.7	120.6	124.1	128.9	135.6	143.9	153.9	164.2	175.4	187.6	205.4
142.5°	123.0	123.7	127.0	131.7	138.1	145.7	155.1	164.7	174.7	185.7	200.9
145°	126.6	128.0	131.1	135.8	142.1	149.0	157.6	166.4	175.1	184.6	196.3
147.5°	132.0	132.9	135.9	140.3	145.5	151.7	159.7	167.5	175.4	183.5	192.5
150°	135.5	136.4	138.9	143.0	147.8	153.5	160.7	167.9	175.1	182.7	190.3
152.5°	139.0	139.5	142.0	145.5	150.1	155.2	161.7	168.2	174.7	181.5	188.5
155°	144.0	144.3	146.2	149.6	153.1	157.8	163.2	168.5	173.9	179.2	185.3
157.5°	148.1	148.5	150.0	153.0	155.8	159.7	164.3	168.5	172.5	177.0	182.2
160°	150.9	151.2	152.5	155.0	157.6	161.0	164.8	168.5	171.7	175.5	179.9
162.5°	153.7	153.5	154.8	156.8	159.1	161.8	165.1	168.3	170.9	174.2	177.9
165°	156.9	156.6	157.2	159.1	160.7	162.6	165.4	167.6	169.5	171.7	174.5
167.5°	159.5	159.2	159.7	161.0	162.1	163.3	165.3	167.2	168.1	169.5	171.3
170°	161.3	160.7	161.0	161.9	162.6	163.5	165.1	166.7	167.3	168.3	169.5
172.5°	162.3	161.9	161.8	162.7	163.1	163.8	164.9	165.9	166.3	166.7	167.7
175°	163.5	163.2	162.9	163.5	163.5	163.8	164.4	165.1	164.8	165.1	165.4
177.5°	164.1	163.5	163.4	163.8	163.8	163.8	164.1	164.6	164.1	163.8	164.1
180°	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	192.9	203.5	214.4	221.5	224.9	228.2	231.6	235.0
90°	187.3	197.2	208.3	215.5	218.6	221.8	225.0	228.1
92.5°	195.7	202.2	209.8	214.6	217.5	219.6	223.0	225.7
95°	238.6	229.3	226.1	225.8	224.8	225.5	227.7	231.1
97.5°	338.0	312.7	288.3	272.0	260.0	255.4	253.9	254.3
100°	425.4	396.1	362.7	330.8	307.6	296.9	290.7	287.9
102.5°	480.6	481.3	459.3	425.1	399.6	379.3	370.9	366.0
105°	503.0	547.8	561.1	556.7	540.1	523.4	512.8	511.3
107.5°	468.9	531.3	572.9	594.0	599.3	601.2	601.4	598.4
110°	441.9	506.7	555.4	586.9	603.4	612.2	618.0	620.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	416.6	479.2	530.7	566.0	587.7	600.6	608.9	613.4
115°	383.9	440.3	489.5	527.3	552.6	570.0	581.0	586.7
117.5°	356.7	407.1	452.3	487.9	513.4	531.5	542.8	547.9
120°	341.6	388.1	428.8	462.6	487.6	505.2	517.3	523.3
122.5°	328.7	371.7	410.5	441.1	463.4	480.5	491.1	496.1
125°	309.0	348.6	383.3	411.7	432.4	446.7	457.0	461.8
127.5°	289.5	325.5	358.1	384.3	402.6	416.2	425.3	429.5
130°	277.1	310.6	341.8	366.8	384.3	397.2	405.6	410.2
132.5°	265.0	296.2	325.1	348.8	366.0	378.9	386.8	391.2
135°	248.1	274.4	300.7	322.2	337.8	350.4	358.1	361.4
137.5°	233.1	255.3	276.7	295.3	309.5	320.2	327.0	330.6
140°	223.7	243.1	261.8	278.6	290.3	300.0	306.3	309.8
142.5°	216.7	232.9	248.7	262.7	273.7	282.4	288.0	289.8
145°	207.6	219.6	231.0	241.6	250.4	257.1	261.5	263.8
147.5°	201.1	209.5	217.3	224.4	231.2	236.2	239.0	240.1
150°	197.9	204.8	211.4	217.0	221.8	225.6	227.5	227.8
152.5°	195.1	201.5	207.1	212.0	215.8	219.0	220.4	220.5
155°	191.3	196.3	201.0	204.5	207.9	210.2	211.4	210.8
157.5°	186.8	191.0	194.9	197.7	200.1	202.0	202.5	202.5
160°	184.0	187.4	190.9	193.1	195.4	196.9	197.2	197.2
162.5°	181.2	184.2	187.2	188.9	191.1	192.2	192.4	192.2
165°	177.1	179.2	181.5	182.7	184.0	185.3	185.3	184.9
167.5°	173.1	174.8	176.3	177.5	178.0	178.7	178.6	178.3
170°	171.1	172.0	173.3	173.9	174.2	175.1	174.9	174.2
172.5°	168.8	169.5	170.5	170.9	171.2	171.7	171.3	170.9
175°	166.4	166.7	167.0	167.3	167.3	167.6	167.3	166.7
177.5°	164.6	164.6	164.9	164.9	164.9	164.9	164.6	164.1
180°	163.8	163.8	163.8	163.8	163.8	163.8	163.8	163.8

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