

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: P331927-935

Luminaire Tested: **S123DIP-S560D585U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331927-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S560D585U935-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3823.0 lumens  
Efficiency: N/A  
Efficacy: 116.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse

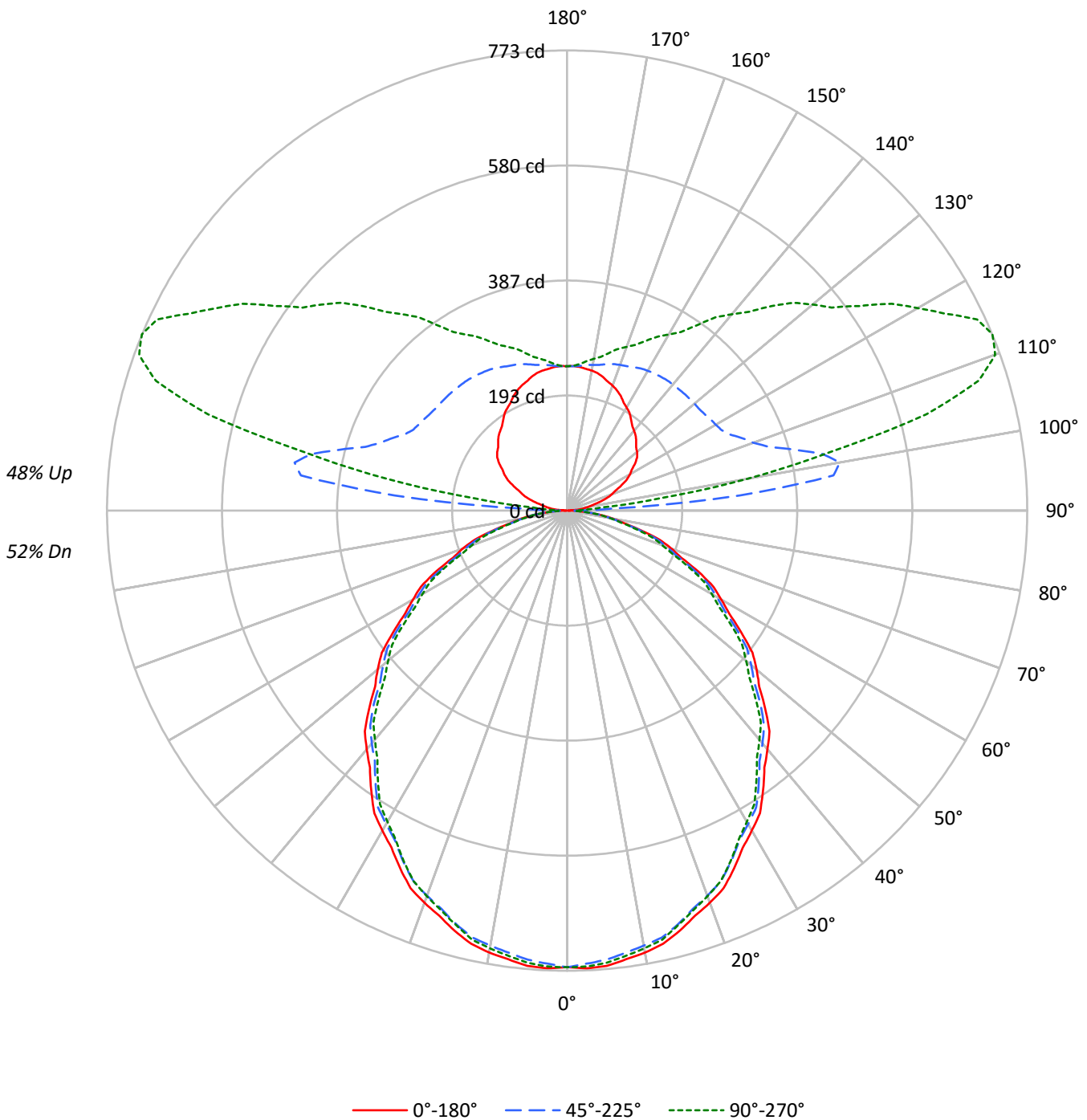
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	86	91	87	84	81	74	72	69	62	60	59	51	50	49	44
2	89	82	76	70	82	76	71	66	65	61	57	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	68	57	49	43	63	53	46	40	45	40	35	39	34	31	32	29	26	23
6	63	51	43	37	58	47	40	35	41	35	31	35	30	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	31	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	24	21	18	16
9	50	38	31	25	47	36	29	24	31	26	22	27	22	19	23	19	17	14
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

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

	0°	45°	90°
0°	8257	8257	8257
5°	8295	8182	8238
10°	8240	8110	8160
15°	8143	8018	8033
20°	8031	7887	7895
25°	7880	7732	7715
30°	7713	7558	7501
35°	7540	7376	7281
40°	7359	7173	7062
45°	7159	6987	6817
50°	6958	6759	6571
55°	6696	6523	6324
60°	6433	6247	6047
65°	6199	5947	5761
70°	5854	5605	5353
75°	5348	5157	4937
80°	4823	4624	4581
85°	4236	4076	3915



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.3	1.9
10°-20°	204.0	5.3
20°-30°	301.4	7.9
30°-40°	352.0	9.2
40°-50°	353.9	9.3
50°-60°	310.9	8.1
60°-70°	231.6	6.1
70°-80°	132.0	3.5
80°-90°	39.8	1.0
90°-100°	135.0	3.5
100°-110°	382.3	10.0
110°-120°	376.1	9.8
120°-130°	300.0	7.8
130°-140°	236.5	6.2
140°-150°	176.5	4.6
150°-160°	123.0	3.2
160°-170°	72.3	1.9
170°-180°	23.5	0.6
0°-30°	577.6	15.1
0°-40°	929.7	24.3
0°-60°	1594.5	41.7
0°-90°	1997.8	52.3
90°-120°	893.4	23.4
90°-150°	1606.4	42.0
90°-180°	1825.0	47.7
0°-180°	3823.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	768	764	757	763	762	73
15°	731	728	720	724	721	206
25°	664	659	651	651	650	305
35°	574	570	561	557	554	359
45°	470	467	459	451	448	363
55°	357	356	348	340	337	319
65°	243	240	234	228	226	240
75°	129	126	124	121	119	138
85°	34	33	33	32	32	38
90°	1	6	12	14	14	3
95°	17	54	291	85	57	18
105°	57	84	395	690	625	61
115°	101	125	302	662	760	100
125°	140	165	282	511	599	124
135°	164	196	278	421	486	127
145°	187	214	274	345	380	117
155°	213	229	266	302	315	98
165°	232	239	254	270	274	65
175°	242	242	244	248	247	23
180°	243	243	243	243	243	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	769.6	769.2	768.8	768.3	767.8	766.9	765.6	764.3	763.1	761.8	762.9
5°	767.7	767.0	766.2	765.5	764.7	763.6	762.0	760.3	758.8	757.2	758.6
7.5°	760.2	759.5	758.7	758.0	757.2	756.0	754.4	752.7	751.1	749.4	750.7
10°	753.9	753.1	752.4	751.7	751.0	749.6	747.7	745.8	743.9	742.0	743.3
12.5°	745.5	744.8	744.2	743.6	743.0	741.8	739.9	738.1	736.4	734.6	735.6
15°	730.7	730.2	729.6	729.0	728.4	727.2	725.3	723.4	721.4	719.5	720.7
17.5°	713.8	713.0	712.2	711.4	710.7	709.4	707.5	705.6	703.7	701.7	702.6
20°	701.1	700.3	699.3	698.4	697.6	696.2	694.3	692.4	690.4	688.5	689.1
22.5°	686.8	686.0	685.1	684.2	683.3	681.9	680.0	678.1	676.2	674.3	674.8
25°	663.5	662.6	661.8	660.9	660.0	658.6	656.7	654.8	652.9	651.0	651.1
27.5°	638.6	637.7	636.9	636.0	635.2	633.7	631.6	629.6	627.6	625.5	625.6
30°	620.6	619.9	619.1	618.5	617.7	616.3	614.2	612.2	610.2	608.1	608.1
32.5°	602.7	601.8	600.7	599.8	598.8	597.5	596.0	594.3	592.8	591.2	590.4
35°	573.8	572.9	572.0	571.2	570.3	568.9	567.0	565.1	563.2	561.3	560.4
37.5°	544.2	543.1	542.0	540.9	539.8	538.3	536.3	534.4	532.4	530.5	529.5
40°	523.7	522.8	521.9	521.1	520.1	518.7	516.6	514.6	512.6	510.5	509.3
42.5°	503.1	502.1	501.1	500.1	499.1	497.6	495.5	493.5	491.5	489.4	488.2
45°	470.3	469.7	469.1	468.5	467.9	466.7	464.8	462.9	461.0	459.0	457.3
47.5°	437.6	436.8	436.0	435.1	434.3	432.9	431.2	429.4	427.6	425.8	424.0
50°	415.5	414.7	414.1	413.3	412.6	411.3	409.3	407.4	405.5	403.6	402.0
52.5°	392.3	391.8	391.3	390.8	390.3	389.0	387.0	385.0	383.0	381.0	379.6
55°	356.8	356.6	356.5	356.4	356.2	355.2	353.3	351.4	349.5	347.6	345.9
57.5°	323.0	322.5	322.0	321.6	321.1	320.0	318.5	317.0	315.5	313.9	312.5
60°	298.8	298.6	298.5	298.3	298.2	297.2	295.5	293.7	292.0	290.2	288.9
62.5°	277.2	276.7	276.4	276.0	275.6	274.6	272.8	271.0	269.2	267.5	266.2
65°	243.4	242.6	241.9	241.2	240.5	239.4	237.9	236.4	235.0	233.5	232.3
67.5°	207.6	207.0	206.3	205.7	205.0	204.1	203.0	201.9	200.8	199.8	198.7
70°	186.0	185.1	184.3	183.4	182.4	181.6	180.7	179.9	178.9	178.1	177.0
72.5°	163.3	162.6	162.0	161.4	160.7	159.9	158.9	157.9	156.9	155.9	155.0
75°	128.6	128.0	127.4	126.8	126.3	125.8	125.3	124.8	124.4	124.0	123.3
77.5°	97.9	97.6	97.2	96.9	96.6	96.2	95.7	95.1	94.5	94.0	93.6
80°	77.8	77.4	77.0	76.5	76.0	75.7	75.4	75.1	74.8	74.6	74.4
82.5°	58.3	58.2	58.1	58.0	57.9	57.9	57.9	57.8	57.7	57.7	57.3
85°	34.3	34.0	33.8	33.4	33.1	33.0	33.0	33.0	33.0	33.0	32.7
87.5°	13.9	13.8	13.6	13.5	13.4	13.3	13.5	13.7	13.9	14.0	13.9
90°	0.9	2.0	2.9	4.4	5.4	6.4	7.8	9.3	10.8	12.3	11.8
92.5°	6.1	9.0	13.2	17.0	21.1	28.4	41.2	62.3	83.1	75.5	57.0
95°	16.7	18.2	23.6	31.9	44.7	63.8	105.6	178.7	259.3	291.2	236.2
97.5°	28.5	29.0	33.2	40.5	53.0	73.8	113.7	196.1	330.4	451.3	482.8
100°	36.3	36.9	40.3	47.2	58.9	78.1	112.4	185.1	314.3	465.0	561.8
102.5°	44.6	45.5	48.6	55.0	65.6	83.2	114.0	175.7	290.8	439.5	565.8
105°	57.0	58.5	61.4	67.2	76.6	91.9	118.4	168.9	261.7	394.9	535.8
107.5°	70.1	71.6	74.5	80.2	89.0	103.1	126.4	168.4	243.3	355.3	483.4
110°	79.6	81.0	83.5	88.9	97.2	111.0	133.1	170.4	236.2	332.9	450.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.2	89.7	92.1	97.6	105.9	119.2	139.7	174.4	232.3	318.1	421.6
115°	100.7	102.6	105.6	110.5	118.8	132.1	150.8	180.7	230.8	302.0	387.0
117.5°	113.1	115.4	117.9	122.3	131.7	144.0	162.5	189.2	231.7	292.6	366.1
120°	121.8	123.3	125.7	130.6	140.0	152.2	169.9	195.4	233.2	288.3	355.1
122.5°	129.2	130.7	133.2	138.4	147.4	160.5	177.8	201.4	236.0	285.5	346.0
125°	140.0	140.9	143.9	149.3	158.6	171.9	189.1	210.7	240.1	281.9	334.4
127.5°	148.1	149.6	153.3	158.7	169.0	182.3	198.9	218.3	244.9	280.1	324.3
130°	153.3	154.7	159.1	165.0	175.3	188.6	204.7	223.4	248.0	279.0	318.7
132.5°	157.1	159.0	163.8	170.9	181.2	194.1	209.9	228.2	250.4	278.5	313.6
135°	164.0	166.0	171.4	178.7	189.1	202.3	217.6	234.3	253.9	277.9	306.9
137.5°	170.5	172.5	177.9	185.7	196.0	208.2	222.8	238.8	256.2	276.9	301.2
140°	174.9	177.3	182.2	190.0	199.8	212.2	226.4	241.2	257.8	276.5	297.6
142.5°	179.5	181.6	186.9	194.0	203.8	215.3	229.1	243.5	259.0	275.7	294.5
145°	187.1	188.6	193.0	200.4	208.7	220.0	232.8	246.1	259.8	274.5	290.2
147.5°	194.8	195.6	200.0	206.4	214.4	224.0	235.7	247.6	259.8	272.7	286.1
150°	199.8	200.4	204.3	210.7	217.6	226.4	237.7	248.0	259.8	271.0	283.4
152.5°	205.0	205.1	209.1	214.6	220.7	229.1	238.8	248.8	258.6	269.1	280.3
155°	212.7	212.7	215.6	220.5	225.9	232.8	241.2	249.0	257.4	265.7	275.5
157.5°	218.7	219.1	221.4	225.8	230.4	235.7	242.4	249.5	255.6	262.6	270.2
160°	223.4	223.4	225.4	229.4	232.8	237.7	243.6	249.5	254.9	260.3	266.7
162.5°	227.0	227.0	228.6	231.7	234.7	238.8	244.0	249.1	253.3	258.0	263.1
165°	232.3	231.8	232.8	235.2	237.2	240.6	244.5	248.0	251.0	254.4	258.3
167.5°	236.3	235.7	236.2	238.1	239.4	241.6	244.4	247.2	248.6	250.8	253.7
170°	238.7	237.7	238.2	239.6	240.6	241.6	244.1	246.1	247.0	248.5	251.0
172.5°	240.2	239.6	239.8	240.8	241.4	242.0	244.1	245.6	245.8	246.5	248.2
175°	242.1	241.6	241.2	242.1	242.1	242.6	243.6	244.5	244.1	244.1	245.0
177.5°	243.0	242.6	242.2	242.6	242.6	242.6	243.0	243.7	243.0	242.6	243.0
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	767.1	767.1	767.1	767.1	767.1	767.1	767.1	767.1
2.5°	764.1	765.3	766.5	767.0	766.9	766.7	766.6	766.5
5°	760.1	761.6	763.0	763.6	763.3	763.0	762.8	762.4
7.5°	752.0	753.3	754.7	755.2	755.0	754.8	754.7	754.5
10°	744.6	746.0	747.3	747.8	747.5	747.2	746.9	746.6
12.5°	736.5	737.5	738.5	738.8	738.7	738.5	738.3	738.1
15°	721.9	723.1	724.3	724.4	723.5	722.6	721.8	720.9
17.5°	703.4	704.2	705.1	705.2	705.0	704.6	704.3	704.0
20°	689.7	690.3	690.9	691.0	690.5	690.1	689.7	689.2
22.5°	675.3	675.7	676.2	676.1	675.6	675.0	674.5	673.9
25°	651.3	651.4	651.5	651.4	651.0	650.6	650.1	649.6
27.5°	625.8	625.9	625.9	625.8	625.2	624.7	624.1	623.5
30°	608.1	608.1	608.1	607.6	606.6	605.5	604.5	603.5
32.5°	589.6	588.8	587.9	587.2	586.7	586.2	585.6	585.0
35°	559.5	558.6	557.8	557.0	556.2	555.5	554.7	554.1
37.5°	528.4	527.4	526.3	525.6	525.1	524.6	524.2	523.7
40°	508.2	507.0	505.8	504.9	504.3	503.8	503.2	502.6
42.5°	487.1	485.9	484.7	483.8	483.2	482.7	482.1	481.5
45°	455.6	453.7	452.0	450.7	450.0	449.3	448.6	447.8
47.5°	422.3	420.6	418.9	417.7	417.1	416.4	415.8	415.1
50°	400.5	398.8	397.2	396.0	395.0	394.2	393.3	392.4
52.5°	378.2	376.9	375.5	374.3	373.4	372.6	371.7	370.8
55°	344.3	342.8	341.1	339.9	339.2	338.5	337.8	337.0
57.5°	311.1	309.6	308.2	307.0	306.2	305.4	304.5	303.7
60°	287.6	286.3	284.9	283.9	283.2	282.4	281.7	280.9
62.5°	264.8	263.6	262.3	261.3	260.8	260.4	259.8	259.3
65°	231.1	230.0	228.8	228.0	227.6	227.1	226.7	226.2
67.5°	197.7	196.7	195.6	194.8	194.2	193.6	193.0	192.3
70°	176.0	175.0	174.0	173.1	172.4	171.6	170.9	170.1
72.5°	154.1	153.2	152.3	151.6	151.3	150.8	150.5	150.1
75°	122.5	121.8	121.1	120.5	120.0	119.6	119.2	118.7
77.5°	93.1	92.6	92.0	91.8	91.8	91.8	91.8	91.8
80°	74.2	74.0	74.0	73.9	73.9	73.9	73.9	73.9
82.5°	57.1	56.8	56.6	56.4	56.3	56.1	56.1	56.0
85°	32.4	32.1	31.8	31.7	31.7	31.7	31.7	31.7
87.5°	13.9	13.8	13.8	13.9	13.9	13.9	14.0	13.9
90°	12.3	12.7	13.3	14.2	13.8	14.2	14.7	14.2
92.5°	41.3	32.8	29.0	26.4	25.6	24.0	24.5	23.7
95°	176.8	119.9	93.8	76.1	66.8	62.3	58.9	57.0
97.5°	440.7	353.0	289.6	230.9	194.7	172.5	159.3	155.1
100°	579.0	539.2	481.7	412.0	362.4	326.6	307.5	307.9
102.5°	625.0	623.7	590.2	546.0	507.4	479.0	463.0	451.7
105°	638.4	687.5	696.9	684.1	661.5	642.8	627.2	624.7
107.5°	599.7	679.5	722.5	739.9	740.4	734.1	728.8	724.3
110°	562.7	653.2	715.1	749.4	763.2	767.1	766.1	765.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	526.2	618.5	687.9	732.1	757.2	769.5	773.2	773.4
115°	477.9	563.3	635.5	689.0	725.8	747.4	757.2	759.7
117.5°	442.7	516.5	581.3	635.7	674.1	698.8	713.0	716.3
120°	424.3	490.6	549.5	599.2	637.9	665.5	677.2	680.2
122.5°	409.7	469.8	524.3	570.4	604.9	629.6	642.7	646.4
125°	390.4	443.9	491.1	530.4	561.8	583.4	595.7	599.2
127.5°	373.5	421.3	463.8	499.6	527.5	546.0	557.1	560.3
130°	362.9	407.1	446.9	480.3	506.4	524.0	534.3	538.2
132.5°	353.1	393.7	430.8	462.6	487.1	504.7	513.8	516.6
135°	339.8	374.7	406.7	434.6	458.7	473.4	482.2	485.7
137.5°	327.8	356.4	383.8	408.1	428.3	443.2	450.7	453.0
140°	320.7	345.7	369.3	390.4	409.1	422.8	430.7	430.2
142.5°	314.0	335.5	355.9	374.3	390.2	402.4	409.5	409.0
145°	305.9	322.2	337.9	352.1	364.4	374.7	378.7	379.6
147.5°	299.4	312.2	324.9	335.0	344.3	351.3	355.1	355.4
150°	294.6	305.9	316.2	325.6	332.9	338.4	341.3	341.3
152.5°	290.3	300.1	309.2	316.9	322.7	327.8	329.5	329.5
155°	283.9	291.7	299.1	305.0	309.4	313.3	314.3	314.8
157.5°	277.0	283.5	289.3	293.9	297.7	300.7	301.4	301.4
160°	273.0	278.4	283.4	286.8	290.2	293.2	293.2	292.7
162.5°	268.4	272.9	277.5	280.5	282.8	285.3	285.3	284.8
165°	262.3	265.2	268.6	271.0	273.0	275.0	274.5	274.5
167.5°	256.9	259.2	261.1	262.9	263.8	265.2	264.7	264.7
170°	253.4	254.9	256.8	257.8	258.3	259.3	258.8	258.8
172.5°	250.3	251.3	252.9	253.5	253.6	254.6	253.7	253.3
175°	246.1	246.5	247.5	247.5	247.5	248.0	247.5	247.0
177.5°	243.4	243.7	244.2	244.2	243.7	244.2	243.4	243.4
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6

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