

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: P332130-935

Luminaire Tested: **S123DIW-S560D755U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332130-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIW-S560D755U935-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

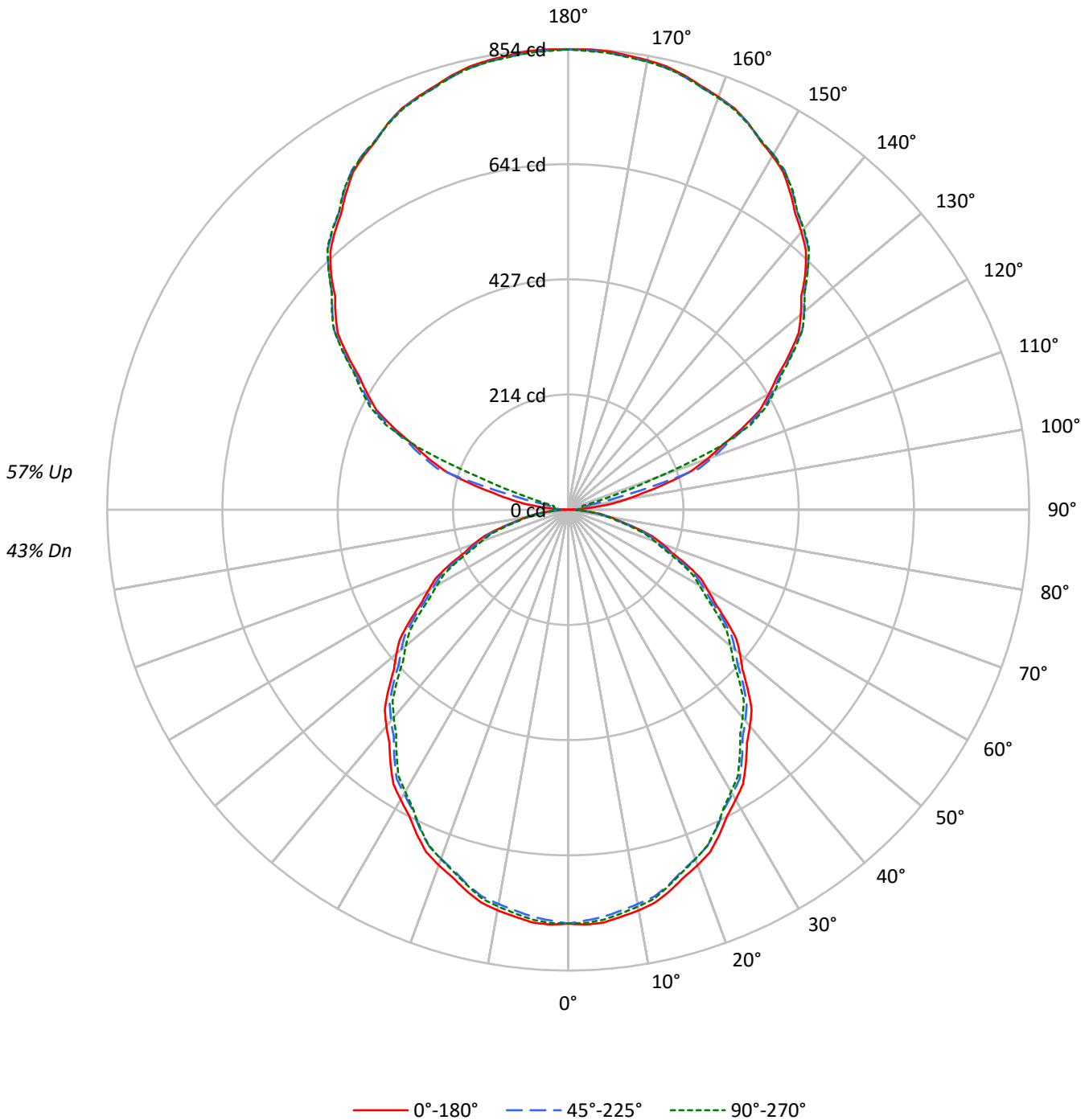
Lumens per Lamp: N/A  
Luminaire Lumens: 4599.0 lumens  
Efficiency: N/A  
Efficacy: 122.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: General Diffuse  
  
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	96	92	88	85	88	84	81	78	70	67	65	56	55	53	44	43	42	36
2	88	80	74	69	80	74	68	64	61	57	54	50	47	44	39	37	35	31
3	80	70	63	57	73	65	58	53	54	49	45	44	40	38	34	32	30	26
4	73	62	54	48	66	57	50	45	48	43	39	39	35	32	31	28	26	22
5	67	55	47	41	61	51	44	39	43	37	33	35	31	28	28	25	23	19
6	62	50	42	36	56	46	39	34	38	33	29	32	27	24	25	22	20	17
7	57	45	37	31	52	41	34	29	35	29	25	29	25	21	23	20	18	15
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	13
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	21	27	22	18	22	18	15	18	15	13	11

**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	1.6
10°-20°	204.0	4.4
20°-30°	301.4	6.6
30°-40°	352.0	7.7
40°-50°	353.9	7.7
50°-60°	310.9	6.8
60°-70°	231.6	5.0
70°-80°	132.0	2.9
80°-90°	40.3	0.9
90°-100°	31.0	0.7
100°-110°	147.8	3.2
110°-120°	355.0	7.7
120°-130°	452.0	9.8
130°-140°	482.9	10.5
140°-150°	451.6	9.8
150°-160°	364.3	7.9
160°-170°	235.1	5.1
170°-180°	81.0	1.8
0°-30°	577.6	12.6
0°-40°	929.7	20.2
0°-60°	1594.5	34.7
0°-90°	1998.3	43.5
90°-120°	533.7	11.6
90°-150°	1920.2	41.8
90°-180°	2601.0	56.6
0°-180°	4599.0	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	7	15	18	19	4
95°	39	14	20	24	24	48
105°	189	192	139	33	28	200
115°	354	358	364	370	373	349
125°	499	504	507	508	509	446
135°	622	625	628	630	628	478
145°	717	722	723	724	724	449
155°	790	789	790	792	789	364
165°	833	831	831	835	831	235
175°	853	850	850	854	850	81
180°	853	853	853	853	853	



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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	13.7	13.6	13.6	13.7	13.9	14.1	14.4	14.6	14.6
90°	0.6	2.1	3.4	4.8	6.3	7.9	9.7	11.5	13.3	15.2	15.8
92.5°	11.8	11.4	11.0	10.6	10.2	10.7	12.1	13.4	14.8	16.2	17.1
95°	38.7	32.9	27.1	21.4	15.6	13.4	15.0	16.5	18.1	19.6	20.7
97.5°	77.7	75.1	72.5	69.9	67.3	61.0	50.8	40.6	30.6	20.4	21.5
100°	107.1	109.9	112.7	115.5	118.3	108.7	86.8	64.8	42.9	20.9	22.0
102.5°	140.5	142.6	144.6	146.6	148.6	137.7	113.7	89.6	65.7	41.7	38.2
105°	188.8	190.4	191.9	193.5	195.0	189.4	176.8	164.1	151.4	138.8	113.8
107.5°	239.7	241.0	242.2	243.5	244.7	246.3	248.3	250.3	252.4	254.3	236.0
110°	273.7	274.8	276.0	277.1	278.2	279.6	281.1	282.7	284.2	285.8	281.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	306.2	307.1	308.2	309.2	310.2	311.5	313.1	314.6	316.2	317.7	317.8
115°	354.1	355.0	355.9	356.7	357.6	358.6	359.9	361.1	362.4	363.7	365.1
117.5°	400.7	401.7	402.8	403.8	404.8	405.7	406.3	407.0	407.6	408.3	409.4
120°	429.6	430.8	432.1	433.3	434.6	435.5	435.9	436.4	436.8	437.1	438.3
122.5°	459.0	460.0	461.1	462.1	463.1	463.9	464.4	465.0	465.5	466.1	466.8
125°	499.3	500.4	501.5	502.7	503.8	504.6	505.1	505.8	506.3	506.9	507.1
127.5°	538.3	539.4	540.5	541.7	542.8	543.7	544.4	545.0	545.7	546.4	546.8
130°	562.6	563.8	564.9	566.0	567.1	568.0	568.5	569.1	569.6	570.2	570.8
132.5°	585.9	587.0	588.1	589.3	590.5	591.2	591.7	592.1	592.5	593.1	593.6
135°	621.6	622.4	623.2	624.1	624.9	625.6	626.2	626.7	627.3	627.8	628.3
137.5°	651.9	653.0	654.1	655.1	656.3	656.9	657.2	657.5	657.9	658.1	658.8
140°	672.2	673.0	673.9	674.8	675.6	676.2	676.7	677.1	677.5	678.0	678.5
142.5°	691.0	691.8	692.7	693.5	694.4	695.0	695.4	695.9	696.3	696.7	697.2
145°	717.2	718.2	719.2	720.1	721.2	721.8	722.0	722.4	722.6	722.9	723.2
147.5°	741.9	742.5	743.2	743.8	744.5	744.9	745.3	745.5	745.8	746.1	746.4
150°	757.2	757.5	757.9	758.4	758.8	759.1	759.5	759.7	760.0	760.3	760.6
152.5°	770.8	771.0	771.2	771.4	771.6	771.8	772.0	772.1	772.3	772.5	772.9
155°	790.1	789.8	789.5	789.2	788.9	788.8	789.0	789.2	789.3	789.5	790.1
157.5°	805.0	805.0	804.9	804.9	804.9	804.9	804.7	804.5	804.4	804.3	805.1
160°	814.2	814.0	813.9	813.7	813.6	813.5	813.3	813.1	813.0	812.9	813.7
162.5°	822.8	822.4	822.0	821.7	821.3	821.0	820.9	820.8	820.6	820.4	821.5
165°	833.2	832.8	832.3	831.9	831.5	831.2	831.0	830.9	830.8	830.6	831.7
167.5°	841.3	840.7	840.2	839.6	839.0	838.7	838.7	838.7	838.7	838.7	839.8
170°	845.8	845.2	844.7	844.1	843.6	843.3	843.3	843.3	843.3	843.3	844.4
172.5°	848.9	848.2	847.5	846.9	846.2	845.8	846.0	846.1	846.2	846.4	847.5
175°	852.8	852.0	851.4	850.7	850.0	849.7	849.8	850.0	850.2	850.2	851.3
177.5°	853.8	853.3	852.6	852.1	851.5	851.4	851.4	851.5	851.7	851.8	852.6
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8



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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°	14.6	14.6	14.6	14.6	14.7	14.8	14.8	14.9
90°	16.4	16.9	17.5	17.9	18.2	18.4	18.7	19.0
92.5°	18.0	18.9	19.8	20.3	20.5	20.7	20.8	21.0
95°	21.6	22.6	23.6	24.1	24.1	24.1	24.1	24.1
97.5°	22.6	23.8	24.9	25.6	25.7	25.8	26.0	26.1
100°	23.2	24.3	25.4	26.1	26.2	26.3	26.4	26.6
102.5°	34.7	31.3	27.7	26.1	26.3	26.6	26.9	27.1
105°	88.9	64.0	39.1	26.8	27.0	27.3	27.6	27.9
107.5°	217.7	199.5	181.2	162.7	143.9	125.1	106.3	87.6
110°	276.5	271.8	267.2	254.8	234.6	214.5	194.3	174.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	317.9	318.0	318.1	315.9	311.7	307.5	303.2	298.9
115°	366.5	367.9	369.3	370.3	370.8	371.4	372.0	372.6
117.5°	410.5	411.6	412.8	413.4	413.5	413.6	413.7	413.9
120°	439.5	440.6	441.7	442.2	442.2	442.2	442.2	442.2
122.5°	467.6	468.4	469.2	469.7	469.8	469.8	470.0	470.1
125°	507.4	507.7	508.0	508.2	508.6	508.9	509.1	509.4
127.5°	547.3	547.8	548.2	548.3	548.0	547.7	547.4	547.2
130°	571.4	571.9	572.5	572.7	572.3	572.0	571.8	571.4
132.5°	594.2	594.7	595.3	595.4	595.0	594.6	594.2	593.7
135°	628.7	629.1	629.6	629.6	629.1	628.7	628.3	627.8
137.5°	659.5	660.2	660.9	661.1	660.8	660.5	660.2	660.0
140°	679.1	679.6	680.2	680.4	680.0	679.8	679.5	679.2
142.5°	697.6	698.0	698.4	698.5	698.1	697.8	697.3	696.9
145°	723.5	723.8	724.0	724.2	724.2	724.2	724.2	724.2
147.5°	746.7	746.9	747.3	747.0	746.4	745.7	745.1	744.4
150°	760.9	761.1	761.4	761.4	761.0	760.5	760.1	759.7
152.5°	773.4	774.0	774.5	774.4	773.8	773.1	772.5	771.8
155°	790.8	791.5	792.3	792.2	791.3	790.5	789.6	788.8
157.5°	806.0	806.8	807.6	807.5	806.4	805.3	804.3	803.1
160°	814.6	815.5	816.2	816.2	815.2	814.2	813.2	812.3
162.5°	822.4	823.4	824.3	824.3	823.5	822.6	821.7	820.9
165°	832.8	834.0	835.1	835.2	834.2	833.2	832.2	831.2
167.5°	840.9	842.1	843.3	843.3	842.1	840.9	839.8	838.7
170°	845.5	846.7	847.8	847.8	846.7	845.5	844.4	843.3
172.5°	848.6	849.7	850.8	850.8	849.5	848.3	847.1	845.8
175°	852.2	853.3	854.2	854.1	853.0	851.9	850.8	849.6
177.5°	853.6	854.5	855.4	855.2	854.1	853.0	851.9	850.8
180°	852.8	852.8	852.8	852.8	852.8	852.8	852.8	852.8

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