

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: P331924

Luminaire Tested: **S123DIP-S560D585U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331924
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-S560D585U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4485.1 lumens
Efficiency: N/A
Efficacy: 136.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

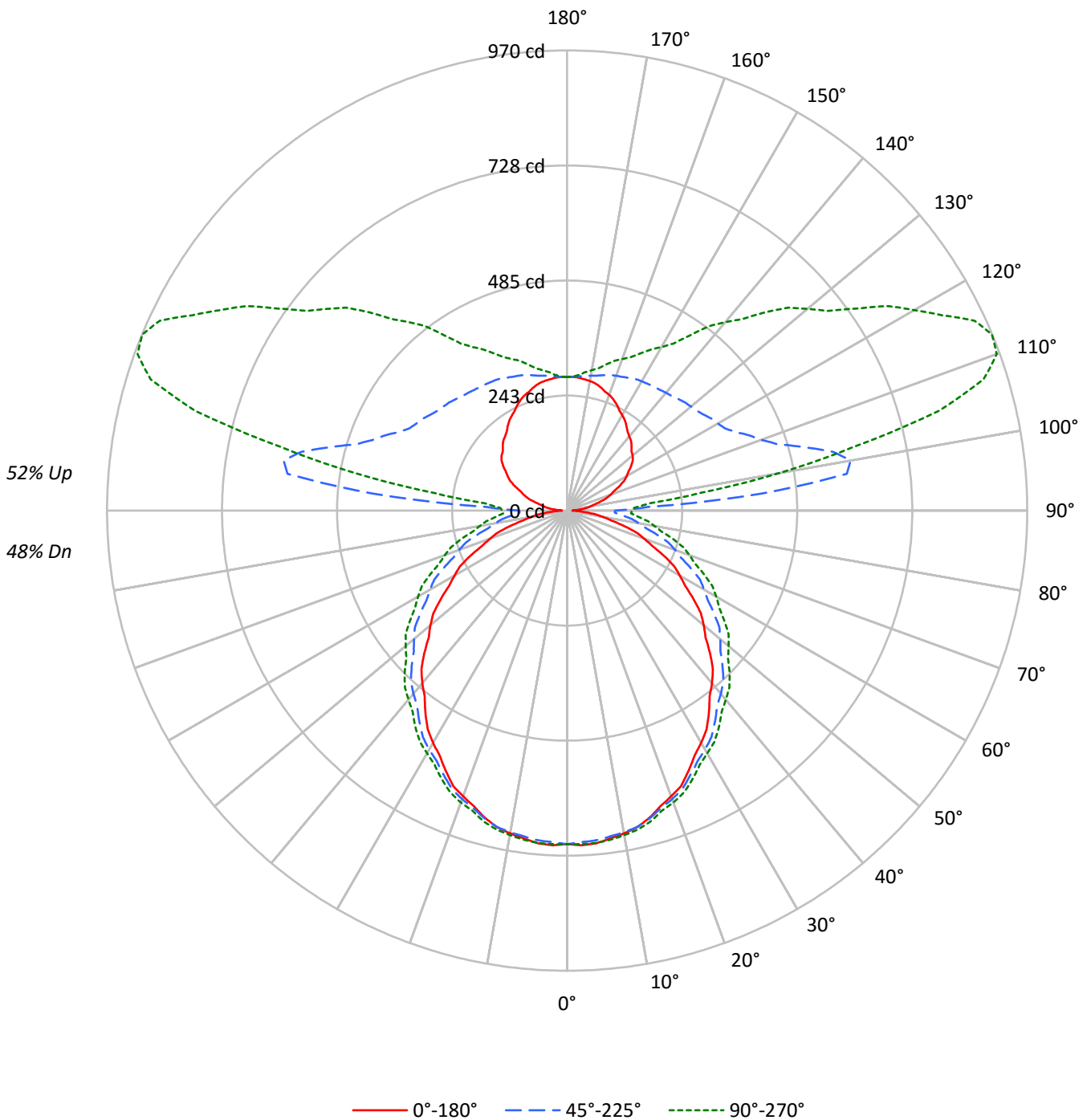
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
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	50	30	10	0														
RCR																																						
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48						48														
1	96	92	87	83	88	84	81	77	71	68	65	58	56	54	47	45	44	39						39														
2	87	79	73	67	80	73	67	63	61	57	53	50	47	45	40	38	36	32						32														
3	79	69	62	56	73	64	57	52	54	49	44	44	41	37	35	33	30	26						26														
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	28	26	22						22														
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19						19														
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17						17														
7	56	44	36	30	52	41	33	28	35	29	25	29	24	21	23	20	17	15						15														
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	16	13						13														
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12						12														
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11						11														

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.7	1.5
10°-20°	190.0	4.2
20°-30°	284.2	6.3
30°-40°	339.4	7.6
40°-50°	355.1	7.9
50°-60°	333.2	7.4
60°-70°	278.3	6.2
70°-80°	199.1	4.4
80°-90°	120.9	2.7
90°-100°	231.3	5.2
100°-110°	498.8	11.1
110°-120°	473.4	10.6
120°-130°	369.3	8.2
130°-140°	284.1	6.3
140°-150°	207.0	4.6
150°-160°	142.9	3.2
160°-170°	83.9	1.9
170°-180°	27.3	0.6
0°-30°	540.9	12.1
0°-40°	880.3	19.6
0°-60°	1568.7	35.0
0°-90°	2167.1	48.3
90°-120°	1203.4	26.8
90°-150°	2063.8	46.0
90°-180°	2318.0	51.7
0°-180°	4485.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	11	54	101	128	137	8
95°	28	102	414	197	173	28
105°	72	123	516	880	811	77
115°	121	160	391	827	948	120
125°	165	195	352	633	742	147
135°	192	229	332	511	591	148
145°	218	249	319	407	450	137
155°	247	266	309	351	366	114
165°	270	278	296	313	319	76
175°	281	282	284	288	287	27
180°	282	282	282	282	282	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.6	29.3	38.0	46.8	55.5	64.3	73.4	82.4	91.4	100.4	106.1
90°	11.1	20.6	30.1	40.1	49.6	59.2	69.6	80.0	90.4	100.8	106.0
92.5°	16.4	27.4	39.7	51.7	64.0	80.4	103.9	137.0	169.6	169.4	153.5
95°	27.8	36.2	49.1	65.4	86.9	116.6	173.4	266.8	368.7	414.1	355.5
97.5°	40.6	47.2	58.0	72.5	93.1	124.1	178.4	282.2	446.1	594.5	636.2
100°	49.1	55.1	64.6	78.0	97.1	126.0	173.8	266.0	423.9	606.8	724.1
102.5°	58.1	64.0	72.4	84.9	102.1	128.8	172.3	251.7	392.9	573.5	724.8
105°	72.3	78.1	85.6	96.5	111.4	134.8	173.0	239.0	354.1	516.0	684.5
107.5°	86.7	91.8	98.6	108.8	122.5	144.1	178.1	233.8	327.7	464.8	618.0
110°	97.0	101.8	107.7	117.0	129.8	150.7	183.2	233.3	316.6	435.7	576.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	107.0	111.3	116.6	125.4	137.6	157.7	188.1	234.8	308.6	414.7	539.4
115°	120.8	125.1	130.5	138.3	150.0	169.5	197.3	238.2	302.5	391.4	494.1
117.5°	135.1	139.0	143.1	149.6	161.7	179.5	206.7	243.4	298.6	375.1	464.4
120°	144.5	147.1	150.8	157.3	169.0	186.5	212.7	247.9	297.5	367.0	448.5
122.5°	153.2	155.3	158.6	165.2	176.1	194.1	219.5	252.3	297.9	360.7	434.8
125°	164.9	166.0	169.4	175.7	186.5	204.4	229.3	259.3	298.5	351.9	416.5
127.5°	174.3	175.9	179.9	186.1	197.9	215.3	238.7	265.3	300.2	345.3	399.8
130°	180.3	181.8	186.8	193.4	205.2	222.3	244.5	269.6	301.5	340.8	390.3
132.5°	184.2	186.3	191.9	200.1	212.0	228.3	249.4	273.3	301.8	337.3	381.1
135°	192.0	194.1	200.3	208.6	220.4	236.7	256.3	277.5	302.2	332.0	368.7
137.5°	199.4	201.7	207.7	216.7	228.4	243.1	261.2	280.7	302.1	327.1	358.0
140°	203.8	206.7	212.4	221.5	232.9	247.4	264.5	282.1	302.0	324.2	351.3
142.5°	209.3	211.6	217.6	225.7	236.9	250.3	266.4	283.2	301.3	320.8	344.9
145°	218.1	219.6	224.6	233.0	242.5	255.5	270.4	285.8	301.7	318.8	338.5
147.5°	226.2	227.2	232.3	239.7	249.0	260.2	273.8	287.6	301.7	316.7	332.7
150°	232.1	232.7	237.3	244.7	252.7	262.9	276.1	288.0	301.7	314.8	329.1
152.5°	238.1	238.2	242.8	249.3	256.3	266.1	277.4	289.0	300.4	312.6	325.5
155°	247.0	247.0	250.4	256.1	262.4	270.4	280.1	289.2	298.9	308.6	320.0
157.5°	254.0	254.5	257.2	262.3	267.6	273.8	281.5	289.8	296.9	305.0	313.8
160°	259.5	259.5	261.8	266.4	270.4	276.1	282.9	289.8	296.0	302.3	309.7
162.5°	263.6	263.6	265.5	269.1	272.6	277.4	283.4	289.3	294.2	299.6	305.6
165°	269.8	269.2	270.4	273.2	275.5	279.5	284.0	288.0	291.5	295.5	300.0
167.5°	274.5	273.8	274.3	276.5	278.1	280.6	283.9	287.1	288.7	291.3	294.7
170°	277.2	276.1	276.6	278.3	279.5	280.6	283.5	285.8	286.9	288.6	291.5
172.5°	279.0	278.3	278.5	279.7	280.4	281.1	283.5	285.3	285.5	286.3	288.3
175°	281.2	280.6	280.1	281.2	281.2	281.8	282.9	284.0	283.5	283.5	284.6
177.5°	282.2	281.8	281.3	281.8	281.8	281.8	282.2	283.1	282.2	281.8	282.2
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	112.0	117.9	123.8	127.8	129.4	131.2	133.0	134.6
90°	112.4	118.8	125.1	130.0	131.1	133.4	135.7	136.8
92.5°	141.0	136.7	137.9	138.6	139.1	139.0	141.1	141.6
95°	291.7	230.8	205.9	188.8	179.7	176.3	174.0	173.4
97.5°	592.3	495.5	427.0	362.2	321.8	297.8	284.1	280.9
100°	749.0	707.7	645.9	568.3	512.3	472.4	451.9	454.1
102.5°	798.4	801.7	767.6	719.6	676.4	645.2	628.3	616.9
105°	808.5	870.3	885.9	874.2	849.5	829.3	812.6	811.3
107.5°	757.8	854.9	909.5	932.8	934.8	929.0	924.3	920.5
110°	711.5	820.9	897.2	940.0	957.3	963.3	963.5	963.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	665.1	776.7	861.5	915.7	946.4	962.1	967.9	969.6
115°	603.7	707.1	795.0	859.9	904.0	930.5	943.3	947.5
117.5°	557.6	647.3	726.7	792.4	838.4	868.4	886.2	891.4
120°	532.8	613.7	686.1	746.2	792.5	825.6	840.5	845.1
122.5°	512.6	586.1	653.3	709.3	750.5	780.4	796.7	802.2
125°	485.1	550.9	609.2	657.2	694.9	721.2	736.6	741.8
127.5°	460.5	519.3	572.1	615.8	649.5	672.1	686.2	691.0
130°	444.8	499.4	548.8	589.7	621.0	642.5	655.5	661.1
132.5°	430.1	480.4	526.5	565.6	595.2	616.9	628.6	633.0
135°	410.0	453.6	493.7	528.2	557.0	574.9	586.1	590.9
137.5°	391.6	427.4	462.1	492.0	516.4	534.6	544.1	547.6
140°	380.6	412.3	442.2	468.4	491.0	507.8	517.8	518.0
142.5°	369.9	397.1	423.1	446.0	465.4	480.4	489.4	489.7
145°	358.1	378.3	397.9	415.4	430.4	443.0	448.3	450.1
147.5°	348.5	363.9	379.0	391.3	402.7	411.4	416.4	417.4
150°	342.2	355.3	367.3	378.3	387.2	393.8	397.6	397.9
152.5°	337.2	348.5	359.1	368.2	375.0	380.8	383.0	383.0
155°	329.7	338.8	347.4	354.2	359.3	363.9	365.0	365.6
157.5°	321.7	329.3	336.0	341.3	345.8	349.2	350.1	350.0
160°	317.1	323.4	329.1	333.1	337.1	340.5	340.5	339.9
162.5°	311.7	317.0	322.3	325.8	328.4	331.4	331.4	330.8
165°	304.6	308.0	312.0	314.8	317.1	319.4	318.8	318.8
167.5°	298.4	301.0	303.3	305.4	306.4	308.0	307.4	307.4
170°	294.3	296.0	298.3	299.4	300.0	301.2	300.6	300.6
172.5°	290.7	291.9	293.7	294.4	294.5	295.7	294.7	294.2
175°	285.8	286.3	287.5	287.5	287.5	288.0	287.5	286.9
177.5°	282.7	283.1	283.6	283.6	283.1	283.6	282.7	282.7
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8

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