

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: P331918

Luminaire Tested: **S123DIP-S560D365U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331918
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-S560D365U835-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3632.9 lumens
Efficiency: N/A
Efficacy: 132.1 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: Semi-Direct

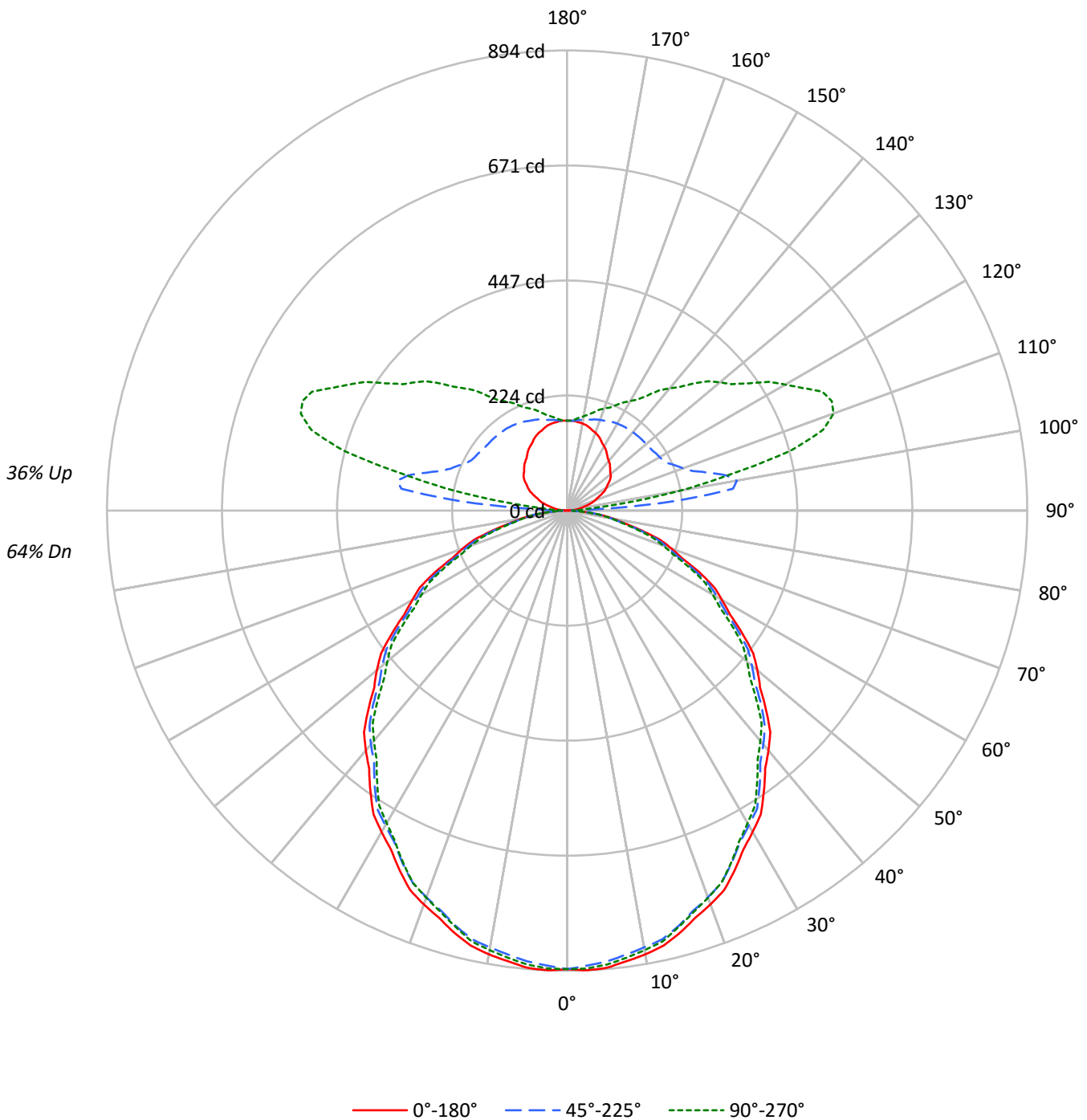
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64
1	101	96	92	89	94	91	87	84	80	77	75	70	68	66	61	59	58	54
2	92	84	78	72	86	79	74	69	70	66	62	61	58	55	53	51	49	45
3	84	74	66	60	78	70	63	58	62	56	52	54	50	47	47	44	41	38
4	77	65	57	51	72	62	54	49	55	49	44	48	44	40	42	39	36	33
5	70	58	50	44	66	55	48	42	49	43	38	43	39	35	38	34	31	28
6	65	52	44	38	61	50	42	37	44	38	33	39	34	30	35	31	27	25
7	60	47	39	34	56	45	38	32	40	34	30	36	31	27	32	28	24	22
8	56	43	35	30	52	41	34	29	37	31	26	33	28	24	29	25	22	20
9	52	39	32	27	49	38	30	26	34	28	24	30	25	22	27	23	20	18
10	49	36	29	24	46	35	28	23	31	25	21	28	23	20	25	21	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9590	9590	9590
5°	9634	9502	9568
10°	9570	9419	9477
15°	9458	9313	9331
20°	9328	9160	9170
25°	9152	8980	8961
30°	8959	8779	8712
35°	8757	8566	8456
40°	8546	8331	8202
45°	8315	8115	7917
50°	8081	7850	7633
55°	7777	7576	7345
60°	7470	7255	7025
65°	7200	6907	6691
70°	6798	6508	6219
75°	6213	5989	5735
80°	5604	5368	5318
85°	4915	4730	4545



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.9	2.3
10°-20°	237.0	6.5
20°-30°	350.0	9.6
30°-40°	408.9	11.3
40°-50°	411.1	11.3
50°-60°	361.1	9.9
60°-70°	269.0	7.4
70°-80°	153.3	4.2
80°-90°	45.3	1.2
90°-100°	97.2	2.7
100°-110°	275.1	7.6
110°-120°	270.6	7.4
120°-130°	215.9	5.9
130°-140°	170.2	4.7
140°-150°	127.0	3.5
150°-160°	88.5	2.4
160°-170°	52.0	1.4
170°-180°	16.9	0.5
0°-30°	670.9	18.5
0°-40°	1079.8	29.7
0°-60°	1851.9	51.0
0°-90°	2319.5	63.8
90°-120°	642.9	17.7
90°-150°	1155.9	31.8
90°-180°	1313.0	36.1
0°-180°	3632.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	891	891	891	891	891	
5°	892	888	879	887	886	84
15°	849	845	836	841	837	239
25°	771	766	756	757	754	355
35°	666	662	652	647	644	417
45°	546	543	533	524	520	421
55°	414	413	404	396	391	371
65°	283	279	271	265	263	279
75°	149	146	144	140	138	160
85°	40	38	38	37	37	44
90°	1	4	9	10	10	3
95°	12	39	210	61	41	13
105°	41	61	284	497	450	44
115°	72	90	217	477	547	72
125°	101	119	203	368	431	89
135°	118	141	200	303	350	91
145°	135	154	198	248	273	84
155°	153	165	191	217	226	70
165°	167	172	183	194	198	47
175°	174	174	176	178	178	17
180°	175	175	175	175	175	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	893.9	893.4	892.9	892.3	891.8	890.7	889.2	887.7	886.3	884.8	886.1
5°	891.6	890.8	889.9	889.1	888.2	886.9	885.0	883.1	881.3	879.4	881.1
7.5°	882.9	882.1	881.2	880.4	879.5	878.1	876.2	874.2	872.3	870.4	871.9
10°	875.6	874.7	873.9	873.0	872.2	870.6	868.4	866.2	864.0	861.8	863.3
12.5°	865.8	865.0	864.3	863.6	862.9	861.5	859.4	857.3	855.3	853.2	854.3
15°	848.7	848.1	847.4	846.7	846.0	844.6	842.4	840.2	837.9	835.7	837.1
17.5°	829.0	828.1	827.2	826.3	825.4	823.9	821.7	819.5	817.3	815.0	816.0
20°	814.3	813.3	812.2	811.2	810.2	808.6	806.4	804.2	801.9	799.7	800.4
22.5°	797.7	796.7	795.7	794.7	793.6	792.0	789.8	787.6	785.4	783.2	783.7
25°	770.6	769.6	768.6	767.6	766.5	764.9	762.7	760.5	758.3	756.1	756.2
27.5°	741.7	740.7	739.7	738.7	737.7	736.0	733.6	731.3	728.9	726.5	726.6
30°	720.8	720.0	719.1	718.3	717.4	715.8	713.4	711.0	708.7	706.3	706.3
32.5°	700.0	698.9	697.7	696.6	695.5	694.0	692.2	690.3	688.5	686.7	685.7
35°	666.4	665.4	664.4	663.4	662.4	660.7	658.5	656.3	654.1	651.9	650.9
37.5°	632.1	630.8	629.5	628.2	626.9	625.2	622.9	620.7	618.4	616.2	615.0
40°	608.2	607.2	606.2	605.2	604.1	602.4	600.0	597.7	595.3	592.9	591.5
42.5°	584.3	583.2	582.0	580.8	579.7	577.9	575.5	573.2	570.8	568.4	567.0
45°	546.2	545.5	544.8	544.1	543.4	542.0	539.8	537.6	535.4	533.1	531.1
47.5°	508.3	507.3	506.4	505.4	504.4	502.8	500.8	498.7	496.6	494.5	492.5
50°	482.6	481.7	480.9	480.0	479.2	477.7	475.4	473.2	471.0	468.8	466.9
52.5°	455.6	455.0	454.5	453.9	453.3	451.8	449.5	447.2	444.8	442.5	440.9
55°	414.4	414.2	414.1	413.9	413.7	412.5	410.3	408.1	405.9	403.7	401.8
57.5°	375.2	374.6	374.0	373.5	372.9	371.7	369.9	368.2	366.4	364.6	363.0
60°	347.0	346.8	346.7	346.5	346.3	345.2	343.2	341.1	339.1	337.0	335.5
62.5°	321.9	321.4	321.0	320.6	320.1	318.9	316.8	314.8	312.7	310.7	309.2
65°	282.7	281.8	281.0	280.1	279.3	278.0	276.3	274.6	272.9	271.2	269.8
67.5°	241.1	240.4	239.6	238.9	238.1	237.1	235.8	234.5	233.2	232.0	230.8
70°	216.0	215.0	214.0	213.0	211.9	210.9	209.9	208.9	207.8	206.8	205.6
72.5°	189.7	188.9	188.2	187.4	186.7	185.7	184.6	183.4	182.2	181.1	180.0
75°	149.4	148.7	148.0	147.3	146.7	146.1	145.5	145.0	144.5	144.0	143.2
77.5°	113.7	113.3	112.9	112.6	112.2	111.7	111.1	110.5	109.8	109.2	108.7
80°	90.4	89.9	89.4	88.9	88.3	87.9	87.6	87.2	86.9	86.6	86.4
82.5°	67.7	67.6	67.5	67.4	67.3	67.2	67.2	67.1	67.0	67.0	66.6
85°	39.8	39.5	39.2	38.8	38.5	38.3	38.3	38.3	38.3	38.3	38.0
87.5°	16.1	15.8	15.5	15.3	15.1	14.9	15.0	15.1	15.2	15.2	15.0
90°	0.7	1.4	2.1	3.2	3.9	4.6	5.7	6.7	7.8	8.8	8.5
92.5°	4.4	6.5	9.5	12.2	15.2	20.4	29.7	44.9	59.8	54.3	41.0
95°	12.0	13.1	17.0	23.0	32.2	45.9	76.0	128.6	186.6	209.6	170.0
97.5°	20.5	20.8	23.9	29.1	38.2	53.1	81.8	141.1	237.8	324.8	347.4
100°	26.2	26.5	29.0	33.9	42.4	56.2	80.9	133.2	226.2	334.7	404.3
102.5°	32.1	32.7	34.9	39.6	47.2	59.9	82.1	126.4	209.2	316.3	407.1
105°	41.0	42.1	44.2	48.4	55.1	66.1	85.2	121.6	188.4	284.1	385.5
107.5°	50.5	51.5	53.6	57.7	64.0	74.2	91.0	121.2	175.1	255.7	347.8
110°	57.2	58.3	60.1	64.0	70.0	79.9	95.8	122.6	170.0	239.6	324.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	63.5	64.5	66.3	70.2	76.2	85.8	100.6	125.5	167.1	228.8	303.4
115°	72.4	73.9	76.0	79.5	85.5	95.1	108.5	130.0	166.1	217.3	278.5
117.5°	81.4	83.0	84.8	88.1	94.8	103.6	116.9	136.1	166.7	210.5	263.4
120°	87.6	88.7	90.5	94.0	100.7	109.5	122.3	140.6	167.9	207.4	255.5
122.5°	93.0	94.1	95.8	99.7	106.1	115.5	127.9	144.9	169.8	205.5	249.0
125°	100.7	101.4	103.5	107.4	114.1	123.7	136.1	151.6	172.8	202.8	240.7
127.5°	106.6	107.6	110.3	114.2	121.6	131.2	143.1	157.1	176.2	201.6	233.3
130°	110.3	111.3	114.5	118.7	126.2	135.7	147.4	160.8	178.5	200.7	229.3
132.5°	113.1	114.4	117.9	123.0	130.4	139.7	151.0	164.2	180.2	200.4	225.7
135°	118.0	119.4	123.3	128.6	136.1	145.6	156.5	168.6	182.7	200.0	220.9
137.5°	122.7	124.2	128.0	133.6	141.0	149.8	160.4	171.8	184.4	199.2	216.7
140°	125.8	127.6	131.1	136.8	143.8	152.7	162.9	173.5	185.5	199.0	214.1
142.5°	129.2	130.7	134.5	139.6	146.7	154.9	164.9	175.2	186.4	198.4	211.9
145°	134.6	135.7	138.9	144.2	150.2	158.3	167.5	177.0	186.9	197.5	208.8
147.5°	140.2	140.8	143.9	148.5	154.3	161.2	169.6	178.2	186.9	196.2	205.9
150°	143.8	144.2	147.0	151.6	156.5	162.9	171.0	178.5	186.9	195.1	203.9
152.5°	147.5	147.6	150.4	154.4	158.8	164.9	171.9	179.0	186.1	193.7	201.6
155°	153.0	153.0	155.1	158.7	162.6	167.5	173.5	179.2	185.2	191.2	198.2
157.5°	157.4	157.7	159.4	162.5	165.8	169.6	174.4	179.5	184.0	189.0	194.4
160°	160.8	160.8	162.2	165.0	167.5	171.0	175.3	179.5	183.4	187.3	191.9
162.5°	163.3	163.3	164.5	166.7	168.9	171.9	175.6	179.2	182.3	185.6	189.3
165°	167.1	166.8	167.5	169.3	170.7	173.2	176.0	178.5	180.6	183.1	185.9
167.5°	170.0	169.6	170.0	171.3	172.3	173.9	175.9	177.9	178.9	180.5	182.6
170°	171.7	171.0	171.4	172.4	173.2	173.9	175.6	177.0	177.8	178.8	180.6
172.5°	172.9	172.4	172.5	173.3	173.7	174.1	175.6	176.8	176.9	177.4	178.6
175°	174.2	173.9	173.5	174.2	174.2	174.6	175.3	176.0	175.6	175.6	176.3
177.5°	174.9	174.6	174.3	174.6	174.6	174.6	174.9	175.4	174.9	174.6	174.9
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.9	890.9	890.9	890.9	890.9	890.9	890.9	890.9
2.5°	887.5	888.8	890.2	890.8	890.7	890.5	890.4	890.3
5°	882.8	884.5	886.2	886.9	886.5	886.2	885.9	885.5
7.5°	873.4	874.9	876.5	877.1	876.9	876.7	876.5	876.3
10°	864.8	866.4	867.9	868.5	868.2	867.8	867.5	867.1
12.5°	855.4	856.6	857.7	858.1	857.9	857.7	857.5	857.3
15°	838.5	839.8	841.2	841.3	840.3	839.3	838.3	837.3
17.5°	817.0	817.9	818.9	819.1	818.8	818.4	818.0	817.6
20°	801.1	801.8	802.4	802.5	802.0	801.5	801.0	800.5
22.5°	784.3	784.8	785.4	785.3	784.7	784.0	783.4	782.7
25°	756.4	756.6	756.7	756.6	756.1	755.6	755.0	754.5
27.5°	726.8	726.9	727.0	726.8	726.1	725.5	724.8	724.2
30°	706.3	706.3	706.3	705.7	704.5	703.3	702.1	700.9
32.5°	684.8	683.8	682.8	682.0	681.4	680.8	680.1	679.5
35°	649.8	648.8	647.8	646.9	646.0	645.2	644.3	643.5
37.5°	613.7	612.5	611.3	610.4	609.9	609.3	608.8	608.2
40°	590.2	588.8	587.5	586.4	585.7	585.1	584.4	583.7
42.5°	565.7	564.3	562.9	561.9	561.2	560.6	559.9	559.2
45°	529.1	527.0	525.0	523.5	522.7	521.8	521.0	520.1
47.5°	490.5	488.5	486.5	485.1	484.4	483.6	482.9	482.1
50°	465.1	463.2	461.3	459.9	458.8	457.8	456.8	455.8
52.5°	439.3	437.7	436.1	434.7	433.7	432.7	431.7	430.7
55°	399.9	398.1	396.2	394.8	394.0	393.1	392.3	391.4
57.5°	361.3	359.6	358.0	356.6	355.6	354.7	353.7	352.7
60°	334.0	332.5	330.9	329.7	328.9	328.0	327.2	326.3
62.5°	307.6	306.1	304.6	303.5	302.9	302.4	301.8	301.2
65°	268.4	267.1	265.7	264.8	264.3	263.8	263.3	262.7
67.5°	229.6	228.4	227.2	226.2	225.5	224.8	224.1	223.4
70°	204.4	203.3	202.1	201.0	200.2	199.3	198.5	197.6
72.5°	179.0	177.9	176.9	176.1	175.7	175.2	174.8	174.3
75°	142.3	141.5	140.6	139.9	139.4	138.9	138.4	137.9
77.5°	108.1	107.5	106.9	106.6	106.6	106.6	106.6	106.6
80°	86.2	86.0	85.9	85.8	85.8	85.8	85.8	85.8
82.5°	66.3	66.0	65.7	65.5	65.4	65.2	65.1	65.0
85°	37.6	37.3	36.9	36.8	36.8	36.8	36.8	36.8
87.5°	15.0	14.9	14.8	14.9	14.8	14.9	15.0	14.9
90°	8.8	9.2	9.5	10.2	9.9	10.2	10.6	10.2
92.5°	29.8	23.6	20.8	19.0	18.4	17.3	17.7	17.0
95°	127.2	86.2	67.5	54.8	48.1	44.9	42.4	41.0
97.5°	317.1	254.0	208.4	166.2	140.1	124.2	114.6	111.6
100°	416.6	388.0	346.7	296.5	260.8	235.0	221.2	221.6
102.5°	449.7	448.8	424.7	392.9	365.1	344.7	333.2	325.0
105°	459.4	494.7	501.4	492.3	476.0	462.6	451.3	449.5
107.5°	431.5	488.9	519.9	532.5	532.8	528.2	524.4	521.2
110°	405.0	470.0	514.5	539.3	549.2	552.0	551.3	550.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	378.7	445.1	495.0	526.8	544.9	553.7	556.4	556.5
115°	343.8	405.3	457.3	495.8	522.3	537.8	544.9	546.7
117.5°	318.6	371.7	418.3	457.4	485.1	502.9	513.0	515.4
120°	305.3	353.0	395.4	431.1	459.0	478.8	487.3	489.4
122.5°	294.9	338.0	377.3	410.5	435.3	453.1	462.4	465.1
125°	280.9	319.5	353.4	381.7	404.3	419.8	428.7	431.1
127.5°	268.8	303.1	333.7	359.5	379.6	392.9	400.9	403.1
130°	261.1	293.0	321.6	345.6	364.3	377.1	384.5	387.3
132.5°	254.1	283.3	310.0	332.9	350.5	363.2	369.8	371.8
135°	244.5	269.6	292.6	312.7	330.1	340.7	347.0	349.5
137.5°	235.8	256.4	276.2	293.7	308.2	319.0	324.3	326.0
140°	230.8	248.8	265.7	280.9	294.4	304.3	309.9	309.6
142.5°	226.0	241.4	256.1	269.3	280.8	289.6	294.6	294.3
145°	220.2	231.8	243.1	253.4	262.2	269.6	272.5	273.2
147.5°	215.4	224.7	233.8	241.1	247.8	252.8	255.5	255.8
150°	212.0	220.2	227.6	234.3	239.6	243.5	245.6	245.6
152.5°	208.9	215.9	222.5	228.1	232.2	235.8	237.1	237.1
155°	204.3	209.9	215.2	219.4	222.6	225.5	226.2	226.5
157.5°	199.3	204.0	208.1	211.5	214.2	216.3	216.9	216.8
160°	196.5	200.4	203.9	206.4	208.8	211.0	211.0	210.6
162.5°	193.1	196.4	199.7	201.9	203.5	205.3	205.3	205.0
165°	188.7	190.8	193.3	195.1	196.5	197.9	197.5	197.5
167.5°	184.9	186.5	187.9	189.2	189.8	190.8	190.5	190.5
170°	182.3	183.4	184.8	185.5	185.9	186.6	186.2	186.2
172.5°	180.1	180.9	182.0	182.4	182.5	183.2	182.6	182.3
175°	177.0	177.4	178.1	178.1	178.1	178.5	178.1	177.8
177.5°	175.1	175.4	175.7	175.7	175.4	175.7	175.1	175.1
180°	174.6	174.6	174.6	174.6	174.6	174.6	174.6	174.6

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