

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: P331951-840

Luminaire Tested: **S123DIP-S560D1195U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331951-840
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-S560D1195U840-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6751.6 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: Semi-Indirect

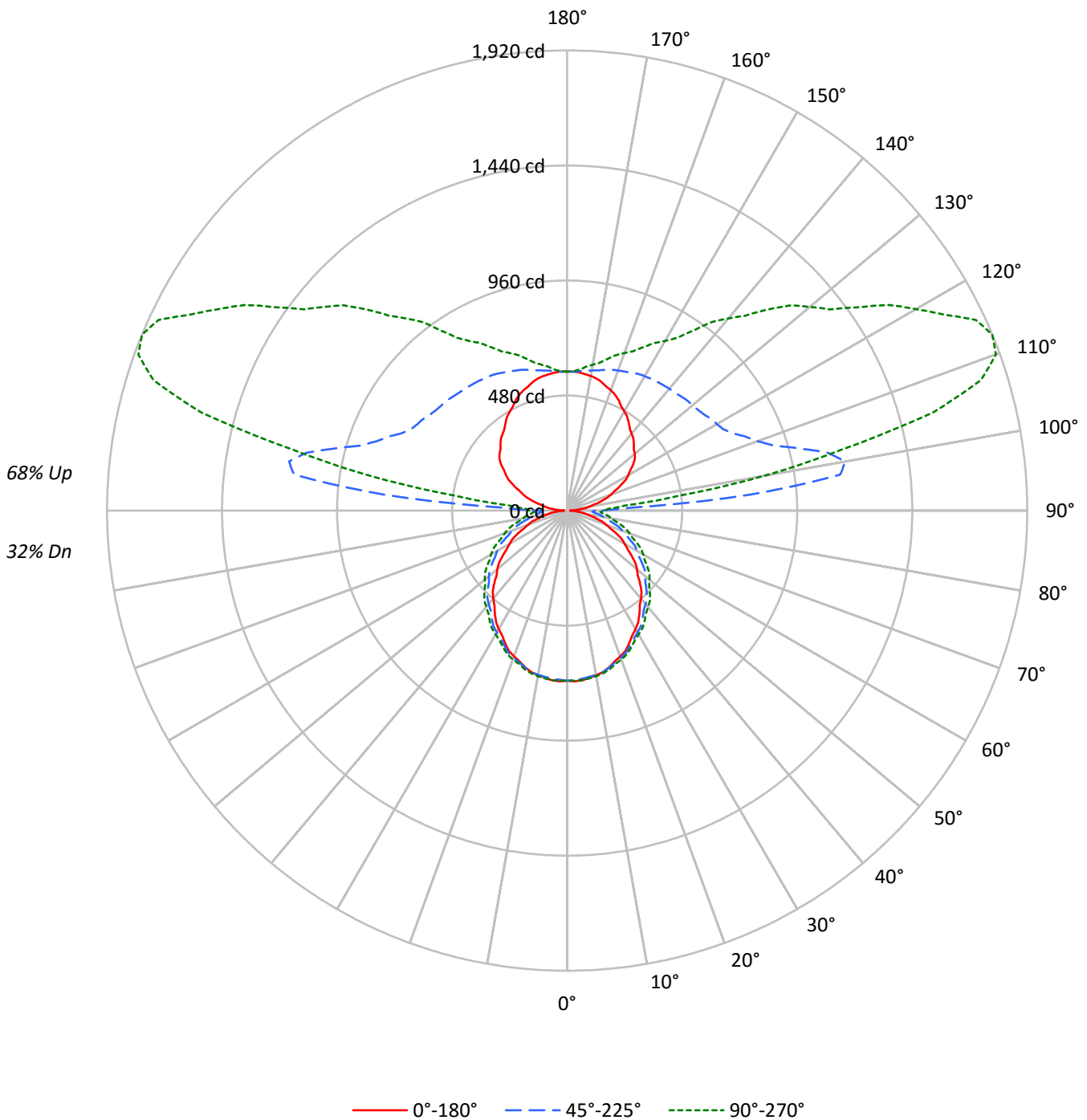
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	103	103	103	103	93	93	93	93	74	74	74		56	56	56		40	40	40	32
1	93	89	85	81	84	80	76	73	63	61	59		48	47	45		34	33	32	26
2	85	77	71	65	76	69	64	60	55	51	48		42	39	37		30	28	27	21
3	77	67	60	54	69	61	54	49	48	44	40		37	34	31		26	24	22	18
4	70	59	52	45	63	54	47	42	43	38	34		33	29	26		23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29		29	26	23		21	18	17	13
6	59	47	39	33	53	43	36	31	34	29	25		26	23	20		19	16	14	11
7	54	42	34	29	49	38	31	27	31	26	22		24	20	17		17	15	13	10
8	50	38	31	25	45	35	28	23	28	23	19		22	18	15		16	13	11	9
9	47	35	27	22	42	32	25	21	26	21	17		20	16	14		14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15		18	15	12		13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.0
10°-20°	191.9	2.8
20°-30°	287.0	4.3
30°-40°	342.8	5.1
40°-50°	358.6	5.3
50°-60°	336.5	5.0
60°-70°	281.1	4.2
70°-80°	201.1	3.0
80°-90°	124.4	1.8
90°-100°	397.8	5.9
100°-110°	968.7	14.3
110°-120°	935.4	13.9
120°-130°	737.8	10.9
130°-140°	574.5	8.5
140°-150°	423.8	6.3
150°-160°	294.0	4.4
160°-170°	172.7	2.6
170°-180°	56.2	0.8
0°-30°	546.3	8.1
0°-40°	889.0	13.2
0°-60°	1584.2	23.5
0°-90°	2190.8	32.4
90°-120°	2301.9	34.1
90°-150°	4038.0	59.8
90°-180°	4561.0	67.6
0°-180°	6751.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	12	62	117	146	156	10
95°	48	169	772	303	244	50
105°	142	227	1001	1729	1579	151
115°	244	314	762	1641	1881	242
125°	337	398	698	1261	1478	299
135°	393	469	673	1028	1188	304
145°	448	512	656	830	916	280
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	21.0	30.1	39.1	48.4	57.4	66.6	76.0	85.4	94.9	104.4	110.1
90°	12.4	23.1	33.9	45.8	56.7	67.6	79.9	92.2	104.4	116.7	121.4
92.5°	24.0	38.6	56.0	72.8	90.3	115.7	155.1	214.2	272.4	262.9	224.3
95°	48.4	58.7	78.3	104.9	142.1	195.4	303.6	486.9	687.7	772.3	646.3
97.5°	75.6	82.8	99.0	122.4	158.5	215.1	318.4	523.5	852.3	1149.3	1229.7
100°	93.8	100.5	114.2	136.1	169.8	222.3	312.3	493.8	810.3	1178.4	1414.5
102.5°	112.9	120.0	132.2	152.6	182.9	231.3	312.8	467.9	750.4	1113.7	1420.1
105°	142.3	150.0	161.1	179.4	205.7	247.8	318.6	446.9	676.0	1001.4	1342.9
107.5°	172.8	179.9	190.2	207.5	231.9	270.9	333.6	441.0	626.8	901.6	1211.9
110°	194.7	201.4	210.3	226.3	249.3	287.2	346.9	442.9	607.0	845.1	1129.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	215.4	221.5	229.8	245.3	267.8	304.3	359.9	449.1	594.2	805.7	1057.5
115°	244.4	251.2	260.2	274.1	296.1	331.8	382.6	460.4	586.2	762.5	969.7
117.5°	274.1	280.7	287.8	299.9	323.5	356.4	406.3	475.9	583.3	734.7	914.2
120°	294.1	298.4	305.2	317.8	340.9	373.5	421.4	488.2	584.1	721.2	884.7
122.5°	311.9	315.9	322.1	335.3	357.1	391.2	438.0	499.7	587.8	711.6	859.9
125°	336.7	339.0	346.1	359.0	381.3	415.5	461.5	518.2	593.5	698.2	827.4
127.5°	356.2	359.5	368.1	381.0	405.5	439.2	482.9	533.5	601.0	689.3	798.1
130°	368.4	371.7	382.1	396.1	420.5	453.8	495.9	544.0	606.1	683.5	781.7
132.5°	377.2	381.6	393.0	409.9	434.5	466.7	507.2	553.5	609.4	679.4	766.3
135°	393.4	398.0	410.7	428.1	452.6	485.1	523.4	565.1	614.0	673.4	745.7
137.5°	408.8	413.5	426.1	444.7	469.0	498.8	534.8	573.9	616.7	667.1	727.7
140°	418.5	424.3	436.1	454.8	478.3	507.9	542.4	578.1	618.5	663.7	716.7
142.5°	429.7	434.5	447.1	463.8	487.2	514.6	547.8	582.2	619.4	659.3	706.4
145°	447.8	451.1	461.5	479.0	498.8	525.6	556.1	587.8	620.7	655.9	694.8
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	684.0
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	116.1	122.2	128.3	132.5	134.0	135.9	137.9	139.4
90°	128.5	135.4	142.5	148.6	149.2	152.1	154.9	155.5
92.5°	192.7	177.9	174.5	172.1	171.6	169.6	172.4	171.8
95°	509.7	378.9	322.0	283.3	262.7	253.9	247.4	244.4
97.5°	1134.2	929.8	783.6	646.6	561.8	510.7	480.7	472.3
100°	1460.6	1370.6	1238.3	1075.0	958.3	874.2	830.2	833.1
102.5°	1566.4	1568.2	1493.1	1390.8	1300.2	1234.2	1197.6	1172.4
105°	1593.0	1715.1	1742.2	1714.9	1662.4	1619.4	1583.4	1579.1
107.5°	1494.7	1689.8	1797.2	1842.0	1844.5	1831.0	1819.8	1810.6
110°	1403.1	1623.5	1775.7	1860.8	1895.0	1905.8	1904.8	1903.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1311.8	1536.7	1706.7	1815.2	1876.8	1907.4	1917.8	1919.9
115°	1190.8	1399.2	1575.8	1706.4	1795.7	1848.8	1873.6	1880.9
117.5°	1101.7	1281.9	1440.9	1573.4	1666.5	1727.0	1762.1	1771.4
120°	1054.1	1216.5	1361.2	1482.3	1576.2	1643.2	1672.4	1680.7
122.5°	1016.0	1163.3	1297.5	1410.1	1493.7	1554.0	1586.2	1596.3
125°	964.7	1096.2	1212.5	1308.8	1385.0	1437.9	1468.4	1477.8
127.5°	919.4	1036.8	1141.8	1229.5	1297.6	1342.8	1370.5	1379.2
130°	890.6	999.5	1097.8	1179.7	1242.9	1286.3	1311.9	1322.3
132.5°	863.8	964.1	1055.7	1133.9	1193.5	1236.9	1259.8	1267.6
135°	827.4	913.8	993.2	1062.0	1120.3	1156.4	1178.4	1187.5
137.5°	794.1	865.1	933.5	993.2	1042.5	1078.9	1097.6	1103.9
140°	774.5	836.9	895.8	947.9	993.4	1027.0	1046.7	1046.4
142.5°	755.5	809.1	860.2	905.7	944.6	974.5	992.3	992.0
145°	733.8	773.9	812.7	847.8	877.8	903.1	913.2	916.3
147.5°	716.1	747.2	777.9	802.6	825.5	842.8	852.3	853.8
150°	704.0	730.9	755.6	778.1	796.0	809.3	816.7	817.0
152.5°	693.7	716.9	738.7	757.3	771.2	783.3	787.5	787.6
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

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