

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: P331951-830

Luminaire Tested: **S123DIP-S560D1195U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331951-830
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-S560D1195U830-4F0-1E-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: 6301.5 lumens
Efficiency: N/A
Efficacy: 127.6 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

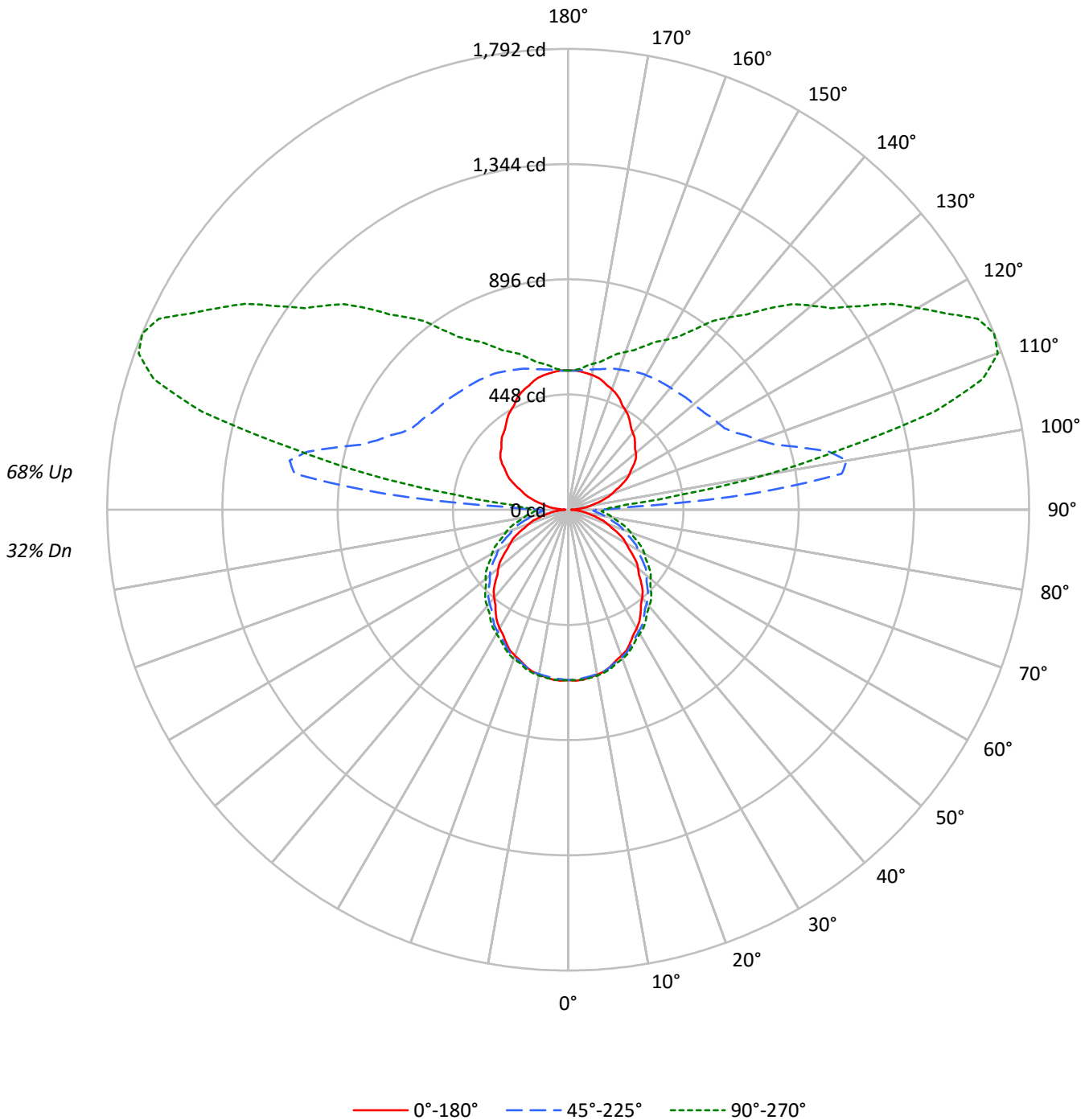
Input Watts (W): 49.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	7134	7134	7134
5°	7156	6954	6959
10°	7093	6795	6761
15°	7001	6612	6544
20°	6871	6405	6306
25°	6709	6166	6056
30°	6544	5951	5803
35°	6359	5723	5601
40°	6181	5515	5382
45°	5986	5318	5210
50°	5793	5121	5019
55°	5578	4919	4848
60°	5369	4716	4670
65°	5156	4499	4462
70°	4837	4254	4245
75°	4430	3973	4029
80°	3958	3698	3779
85°	3521	3508	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.8	1.0
10°-20°	179.1	2.8
20°-30°	267.9	4.3
30°-40°	319.9	5.1
40°-50°	334.7	5.3
50°-60°	314.1	5.0
60°-70°	262.3	4.2
70°-80°	187.7	3.0
80°-90°	116.1	1.8
90°-100°	371.3	5.9
100°-110°	904.1	14.3
110°-120°	873.1	13.9
120°-130°	688.6	10.9
130°-140°	536.2	8.5
140°-150°	395.5	6.3
150°-160°	274.4	4.4
160°-170°	161.2	2.6
170°-180°	52.4	0.8
0°-30°	509.8	8.1
0°-40°	829.7	13.2
0°-60°	1478.6	23.5
0°-90°	2044.7	32.4
90°-120°	2148.5	34.1
90°-150°	3768.8	59.8
90°-180°	4257.0	67.6
0°-180°	6301.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	663	663	663	663	663	
5°	664	662	658	663	663	63
15°	632	634	633	640	640	178
25°	570	577	580	589	589	263
35°	491	502	512	522	526	307
45°	401	419	437	450	456	310
55°	306	330	356	375	381	274
65°	212	240	272	292	300	209
75°	115	149	185	208	217	123
85°	35	72	110	133	142	37
90°	12	58	109	136	145	9
95°	45	158	721	282	228	46
105°	133	212	935	1613	1474	141
115°	228	293	712	1532	1756	226
125°	314	372	652	1177	1379	279
135°	367	438	628	959	1108	284
145°	418	478	612	775	855	262
155°	474	511	592	673	702	218
165°	518	533	567	602	612	146
175°	540	540	544	552	551	51
180°	541	541	541	541	541	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	665.7	665.3	665.0	664.5	664.1	663.5	662.4	661.4	660.3	659.3	660.3
5°	663.5	663.2	662.9	662.6	662.2	661.6	660.6	659.7	658.7	657.7	659.0
7.5°	657.0	657.0	657.1	657.2	657.3	656.9	655.9	655.0	654.0	653.1	654.7
10°	651.3	651.6	651.9	652.2	652.5	652.3	651.5	650.7	649.9	649.1	650.7
12.5°	644.3	644.8	645.3	645.6	646.1	646.1	645.5	645.0	644.4	643.9	645.4
15°	631.8	632.3	632.7	633.2	633.7	633.9	633.7	633.5	633.4	633.2	634.8
17.5°	615.9	616.8	617.8	618.8	619.7	620.2	620.1	620.0	620.0	619.9	621.3
20°	604.4	605.3	606.2	607.2	608.1	608.8	609.2	609.4	609.7	610.1	611.5
22.5°	592.2	593.1	594.1	595.1	596.1	596.7	597.2	597.7	598.1	598.5	600.4
25°	570.4	572.0	573.6	575.2	576.8	577.9	578.3	578.8	579.3	579.8	581.8
27.5°	548.5	550.3	552.1	553.9	555.7	557.1	558.2	559.2	560.2	561.3	563.1
30°	532.8	534.9	537.0	539.1	541.2	542.9	544.1	545.4	546.7	548.0	550.0
32.5°	515.5	517.8	520.2	522.5	524.9	526.9	528.6	530.2	531.9	533.6	535.6
35°	491.0	493.5	496.1	498.7	501.2	503.6	505.7	507.7	509.8	511.9	514.3
37.5°	465.0	467.9	470.7	473.6	476.5	479.3	481.8	484.4	486.9	489.6	492.3
40°	447.6	450.5	453.5	456.3	459.2	462.2	465.4	468.6	471.8	475.0	477.8
42.5°	428.6	432.2	435.6	439.1	442.7	446.1	449.5	452.8	456.2	459.5	462.5
45°	401.4	405.3	409.2	413.0	416.8	420.8	424.8	428.8	432.8	436.8	439.9
47.5°	373.0	377.4	381.7	386.1	390.4	394.9	399.5	404.1	408.7	413.3	416.7
50°	354.5	359.0	363.4	368.0	372.5	377.2	382.2	387.2	392.1	397.1	400.8
52.5°	334.9	339.6	344.4	349.1	353.8	359.0	364.5	369.9	375.4	381.0	384.7
55°	306.1	311.4	316.7	322.0	327.3	332.8	338.7	344.4	350.2	355.9	360.2
57.5°	278.1	283.6	289.2	294.6	300.2	306.1	312.5	318.8	325.1	331.4	335.7
60°	258.4	264.3	270.0	275.8	281.5	287.8	294.4	301.0	307.5	314.1	318.6
62.5°	240.0	245.9	251.8	257.7	263.6	270.0	277.0	284.0	291.0	297.9	302.4
65°	211.5	217.8	224.0	230.4	236.6	243.3	250.3	257.3	264.4	271.5	276.3
67.5°	182.7	189.4	196.0	202.6	209.2	216.1	223.4	230.5	237.7	244.9	250.2
70°	162.5	169.4	176.3	183.1	190.0	197.4	205.0	212.7	220.5	228.2	233.3
72.5°	143.9	150.9	157.8	164.7	171.5	179.0	186.9	194.9	202.8	210.8	216.1
75°	114.8	122.3	129.9	137.4	145.0	152.8	160.8	168.8	176.8	184.8	190.1
77.5°	89.4	97.0	104.6	112.2	119.8	127.6	135.7	143.8	151.9	160.0	165.6
80°	71.4	79.4	87.2	95.1	102.9	111.0	119.3	127.7	136.1	144.4	149.9
82.5°	55.9	63.9	71.8	79.8	87.8	96.0	104.5	113.0	121.5	130.0	135.4
85°	35.3	43.4	51.5	59.5	67.5	75.7	84.3	92.7	101.2	109.7	115.2
87.5°	19.6	28.1	36.5	45.1	53.5	62.1	71.0	79.7	88.6	97.5	102.7
90°	11.6	21.6	31.7	42.8	52.9	63.1	74.6	86.1	97.5	109.0	113.3
92.5°	22.4	36.0	52.3	68.0	84.3	108.0	144.8	199.9	254.2	245.3	209.3
95°	45.1	54.8	73.0	97.9	132.6	182.4	283.3	454.4	641.9	720.9	603.2
97.5°	70.6	77.3	92.4	114.2	148.0	200.8	297.2	488.6	795.5	1072.7	1147.7
100°	87.6	93.8	106.6	127.1	158.4	207.5	291.4	460.9	756.3	1099.9	1320.2
102.5°	105.4	112.0	123.4	142.4	170.7	215.8	291.9	436.7	700.4	1039.4	1325.4
105°	132.8	140.0	150.3	167.4	192.0	231.3	297.4	417.1	630.9	934.6	1253.4
107.5°	161.3	167.9	177.5	193.7	216.4	252.9	311.3	411.6	585.0	841.5	1131.1
110°	181.7	187.9	196.2	211.2	232.7	268.1	323.8	413.4	566.6	788.7	1054.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	201.0	206.7	214.5	228.9	250.0	284.0	335.9	419.1	554.6	752.0	987.0
115°	228.1	234.4	242.9	255.8	276.4	309.7	357.1	429.7	547.1	711.7	905.0
117.5°	255.8	262.0	268.6	279.9	301.9	332.6	379.2	444.2	544.4	685.7	853.3
120°	274.5	278.5	284.8	296.6	318.2	348.6	393.3	455.6	545.2	673.2	825.8
122.5°	291.2	294.8	300.7	312.9	333.3	365.1	408.8	466.4	548.7	664.1	802.6
125°	314.2	316.4	323.0	335.1	355.9	387.8	430.7	483.6	553.9	651.7	772.2
127.5°	332.4	335.5	343.6	355.6	378.4	409.9	450.7	497.9	560.9	643.4	744.9
130°	343.8	346.9	356.7	369.7	392.5	423.6	462.9	507.7	565.7	637.9	729.6
132.5°	352.0	356.2	366.8	382.6	405.6	435.5	473.3	516.6	568.7	634.1	715.2
135°	367.2	371.5	383.3	399.5	422.4	452.8	488.5	527.4	573.1	628.5	696.0
137.5°	381.5	386.0	397.7	415.1	437.7	465.5	499.2	535.6	575.6	622.6	679.2
140°	390.6	396.1	407.0	424.5	446.4	474.0	506.2	539.6	577.3	619.4	668.9
142.5°	401.1	405.6	417.3	432.9	454.7	480.3	511.2	543.4	578.1	615.4	659.3
145°	417.9	421.0	430.7	447.0	465.5	490.6	519.1	548.7	579.3	612.2	648.5
147.5°	434.3	436.3	445.9	460.1	478.2	499.5	525.7	552.1	579.3	608.0	638.4
150°	445.7	446.8	455.5	469.8	485.1	504.8	530.0	553.0	579.3	604.5	631.9
152.5°	457.1	457.3	466.1	478.5	492.1	511.0	532.6	554.8	576.6	600.1	624.9
155°	474.2	474.2	480.8	491.7	503.7	519.1	537.7	555.3	573.8	592.5	614.3
157.5°	487.8	488.6	493.9	503.5	513.8	525.7	540.5	556.3	570.1	585.7	602.5
160°	498.2	498.2	502.7	511.4	519.1	530.0	543.2	556.3	568.4	580.4	594.7
162.5°	506.1	506.1	509.6	516.7	523.5	532.6	544.0	555.4	564.9	575.1	586.7
165°	518.0	516.9	519.1	524.5	529.0	536.6	545.4	553.0	559.6	567.2	576.0
167.5°	527.0	525.7	526.7	530.9	534.0	538.8	545.2	551.3	554.3	559.4	565.7
170°	532.3	530.0	531.1	534.4	536.6	538.8	544.2	548.7	550.8	554.1	559.6
172.5°	535.7	534.4	534.6	537.1	538.4	539.7	544.2	547.8	548.2	549.7	553.5
175°	539.9	538.8	537.7	539.9	539.9	541.0	543.2	545.4	544.2	544.2	546.5
177.5°	541.9	541.0	540.1	541.0	541.0	541.0	541.9	543.6	541.9	541.0	541.9
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	662.8	662.8	662.8	662.8	662.8	662.8	662.8	662.8
2.5°	661.4	662.4	663.5	663.9	663.7	663.6	663.5	663.4
5°	660.3	661.6	662.9	663.5	663.3	663.1	663.0	662.8
7.5°	656.3	657.9	659.6	660.3	660.1	659.9	659.7	659.5
10°	652.3	653.9	655.5	656.1	655.8	655.5	655.2	654.9
12.5°	646.9	648.3	649.8	650.4	650.1	649.7	649.4	649.1
15°	636.4	638.0	639.6	640.4	640.2	640.0	639.9	639.7
17.5°	622.8	624.2	625.7	626.3	626.0	625.8	625.7	625.4
20°	613.0	614.4	615.9	616.7	616.8	617.0	617.2	617.3
22.5°	602.2	604.1	605.9	606.7	606.6	606.5	606.4	606.3
25°	583.9	586.1	588.1	589.2	589.2	589.2	589.2	589.2
27.5°	564.9	566.7	568.4	569.5	569.6	569.7	569.9	570.0
30°	551.9	553.7	555.7	556.7	556.7	556.7	556.7	556.7
32.5°	537.6	539.7	541.8	543.0	543.4	543.8	544.1	544.5
35°	516.7	519.2	521.5	523.0	523.7	524.3	525.0	525.7
37.5°	494.9	497.7	500.4	502.1	502.6	503.0	503.6	504.1
40°	480.5	483.2	486.0	487.7	488.3	489.0	489.6	490.2
42.5°	465.4	468.4	471.5	473.3	474.3	475.1	476.1	476.9
45°	442.9	445.9	449.0	451.2	452.4	453.7	455.1	456.3
47.5°	420.2	423.6	427.0	429.2	430.2	431.2	432.3	433.2
50°	404.4	408.2	411.9	414.2	415.4	416.5	417.6	418.8
52.5°	388.6	392.4	396.2	398.8	400.2	401.5	402.9	404.4
55°	364.6	368.9	373.2	376.1	377.4	378.6	379.9	381.3
57.5°	340.2	344.5	348.8	351.8	353.3	354.8	356.3	357.8
60°	323.1	327.5	332.1	335.2	337.0	338.7	340.4	342.2
62.5°	306.9	311.4	315.8	319.0	320.6	322.2	323.9	325.5
65°	281.1	285.9	290.8	294.0	295.6	297.2	298.8	300.4
67.5°	255.4	260.7	266.0	269.3	270.6	271.9	273.3	274.7
70°	238.5	243.6	248.7	252.0	253.6	255.2	256.8	258.4
72.5°	221.3	226.6	231.9	235.4	237.0	238.6	240.2	241.8
75°	195.4	200.8	206.0	209.6	211.5	213.5	215.4	217.4
77.5°	171.2	176.7	182.3	185.9	187.4	188.8	190.3	191.8
80°	155.3	160.8	166.3	169.8	171.4	173.0	174.6	176.2
82.5°	140.9	146.3	151.7	155.3	156.9	158.5	160.1	161.7
85°	120.6	126.1	131.6	135.1	136.7	138.3	139.9	141.5
87.5°	108.4	114.0	119.7	123.7	125.1	126.9	128.8	130.1
90°	119.9	126.4	133.0	138.6	139.2	141.9	144.6	145.2
92.5°	179.8	166.1	162.9	160.6	160.1	158.3	160.9	160.3
95°	475.7	353.6	300.6	264.4	245.2	237.0	230.9	228.1
97.5°	1058.6	867.8	731.3	603.5	524.3	476.6	448.7	440.8
100°	1363.2	1279.2	1155.7	1003.3	894.4	816.0	774.9	777.6
102.5°	1462.0	1463.7	1393.5	1298.1	1213.5	1151.9	1117.8	1094.2
105°	1486.8	1600.7	1626.1	1600.5	1551.6	1511.5	1477.8	1473.9
107.5°	1395.1	1577.2	1677.3	1719.2	1721.6	1708.9	1698.5	1689.9
110°	1309.6	1515.2	1657.4	1736.7	1768.7	1778.8	1777.8	1776.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1224.4	1434.3	1592.9	1694.2	1751.7	1780.3	1790.0	1791.9
115°	1111.4	1305.9	1470.7	1592.6	1676.0	1725.5	1748.7	1755.5
117.5°	1028.2	1196.5	1344.8	1468.5	1555.4	1611.8	1644.6	1653.3
120°	983.8	1135.4	1270.5	1383.5	1471.1	1533.6	1560.9	1568.7
122.5°	948.3	1085.7	1211.0	1316.1	1394.1	1450.4	1480.5	1489.9
125°	900.4	1023.1	1131.7	1221.5	1292.7	1342.1	1370.6	1379.3
127.5°	858.1	967.7	1065.6	1147.5	1211.1	1253.3	1279.1	1287.2
130°	831.2	932.8	1024.6	1101.1	1160.1	1200.5	1224.5	1234.2
132.5°	806.3	899.8	985.3	1058.3	1113.9	1154.4	1175.8	1183.1
135°	772.2	852.9	927.0	991.2	1045.7	1079.3	1099.9	1108.3
137.5°	741.1	807.4	871.3	927.0	973.0	1007.0	1024.4	1030.3
140°	722.8	781.1	836.0	884.7	927.2	958.6	976.9	976.7
142.5°	705.1	755.2	802.9	845.4	881.7	909.6	926.1	925.9
145°	684.9	722.3	758.6	791.3	819.3	842.9	852.3	855.2
147.5°	668.4	697.4	726.0	749.1	770.4	786.6	795.5	796.9
150°	657.0	682.2	705.2	726.2	742.9	755.4	762.2	762.5
152.5°	647.4	669.1	689.5	706.8	719.8	731.0	735.0	735.1
155°	632.9	650.4	666.9	680.0	689.9	698.7	700.9	701.9
157.5°	617.6	632.4	645.0	655.3	663.8	670.4	672.1	671.9
160°	608.9	620.9	631.9	639.5	647.2	653.7	653.7	652.7
162.5°	598.3	608.7	618.7	625.5	630.6	636.2	636.2	635.2
165°	584.8	591.4	599.0	604.5	608.9	613.2	612.2	612.2
167.5°	573.0	578.0	582.4	586.4	588.2	591.4	590.2	590.2
170°	565.1	568.4	572.7	575.0	576.0	578.2	577.1	577.1
172.5°	558.1	560.4	564.0	565.2	565.5	567.7	565.7	564.9
175°	548.7	549.7	552.0	552.0	552.0	553.0	552.0	550.8
177.5°	542.7	543.6	544.5	544.5	543.6	544.5	542.7	542.7
180°	541.0	541.0	541.0	541.0	541.0	541.0	541.0	541.0

(END OF REPORT)