

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: P331923-940

Luminaire Tested: **S123DIP-S560D585U940-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331923-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U940-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3903.0 lumens
Efficiency: N/A
Efficacy: 119.0 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

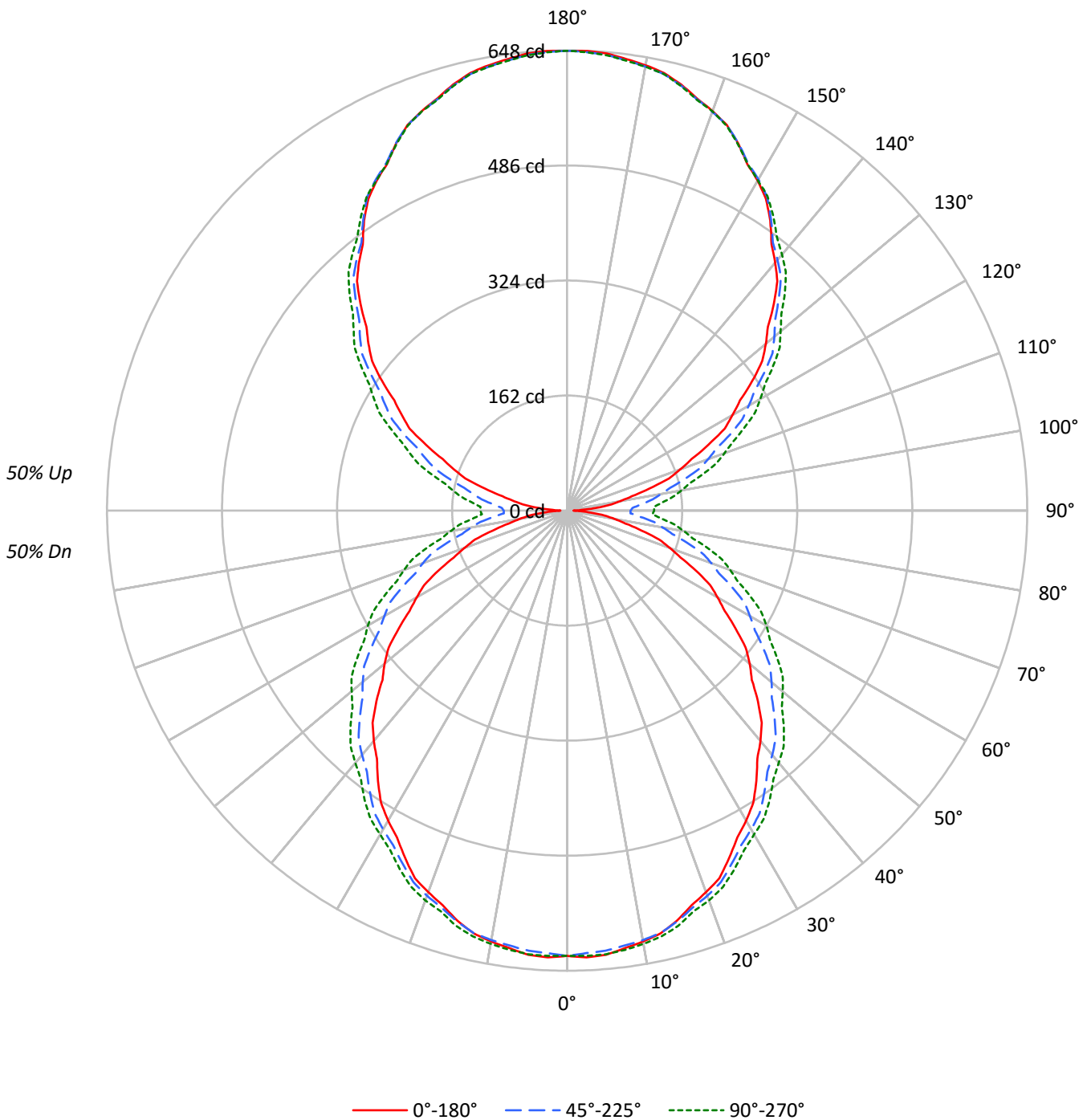
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66	59	57	55	48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54	51	48	45	41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45	45	41	38	36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38	40	36	32	32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32	36	31	28	29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28	32	28	24	26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25	29	25	21	24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20	24	20	17	20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18	23	18	15	19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6750	6750	6750
5°	6771	6579	6584
10°	6710	6428	6396
15°	6624	6256	6191
20°	6501	6059	5966
25°	6348	5833	5729
30°	6191	5629	5489
35°	6016	5414	5298
40°	5848	5218	5093
45°	5664	5030	4929
50°	5480	4845	4748
55°	5278	4654	4586
60°	5080	4461	4419
65°	4879	4255	4221
70°	4575	4025	4016
75°	4191	3760	3810
80°	3748	3499	3575
85°	3332	3319	3435



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.4	1.5
10°-20°	169.5	4.3
20°-30°	253.4	6.5
30°-40°	302.7	7.8
40°-50°	316.7	8.1
50°-60°	297.2	7.6
60°-70°	248.2	6.4
70°-80°	177.6	4.5
80°-90°	107.8	2.8
90°-100°	108.6	2.8
100°-110°	175.1	4.5
110°-120°	247.3	6.3
120°-130°	301.1	7.7
130°-140°	325.8	8.3
140°-150°	313.8	8.0
150°-160°	262.7	6.7
160°-170°	174.9	4.5
170°-180°	61.2	1.6
0°-30°	482.3	12.4
0°-40°	785.0	20.1
0°-60°	1398.8	35.8
0°-90°	1932.4	49.5
90°-120°	531.0	13.6
90°-150°	1471.8	37.7
90°-180°	1971.0	50.5
0°-180°	3903.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	627	627	627	627	627	
5°	628	626	622	627	627	59
15°	598	600	599	605	605	168
25°	540	546	548	557	557	249
35°	464	475	484	494	497	290
45°	380	396	413	426	432	293
55°	290	312	337	354	361	259
65°	200	227	257	277	284	198
75°	109	141	175	197	206	116
85°	33	68	104	126	134	35
90°	9	48	89	114	122	8
95°	38	68	105	128	135	40
105°	120	138	171	190	198	128
115°	220	230	253	269	275	217
125°	318	321	339	350	354	284
135°	412	414	421	431	434	317
145°	499	499	500	505	506	311
155°	570	570	571	572	569	262
165°	621	620	620	622	619	175
175°	646	644	644	647	643	61
180°	648	648	648	648	648	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	629.8	629.5	629.1	628.7	628.3	627.7	626.7	625.7	624.7	623.8	624.7
5°	627.8	627.4	627.1	626.9	626.5	625.9	625.0	624.1	623.2	622.2	623.5
7.5°	621.6	621.6	621.7	621.8	621.9	621.4	620.5	619.6	618.8	617.9	619.4
10°	616.2	616.4	616.7	617.1	617.3	617.2	616.4	615.6	614.8	614.1	615.6
12.5°	609.6	610.0	610.5	610.8	611.3	611.3	610.7	610.2	609.7	609.1	610.6
15°	597.7	598.2	598.6	599.1	599.5	599.7	599.5	599.3	599.2	599.1	600.6
17.5°	582.6	583.5	584.5	585.4	586.3	586.7	586.7	586.6	586.6	586.5	587.8
20°	571.8	572.7	573.5	574.4	575.3	576.0	576.3	576.6	576.8	577.2	578.5
22.5°	560.3	561.2	562.0	563.0	563.9	564.5	565.0	565.4	565.9	566.2	568.0
25°	539.7	541.2	542.7	544.2	545.7	546.7	547.2	547.6	548.0	548.5	550.5
27.5°	518.9	520.6	522.4	524.1	525.8	527.1	528.1	529.1	530.0	531.0	532.7
30°	504.1	506.0	508.0	510.1	512.0	513.6	514.8	516.0	517.2	518.4	520.3
32.5°	487.7	489.9	492.1	494.4	496.6	498.5	500.1	501.6	503.2	504.8	506.8
35°	464.5	466.9	469.3	471.8	474.2	476.4	478.4	480.4	482.3	484.3	486.6
37.5°	439.9	442.6	445.3	448.1	450.8	453.4	455.8	458.3	460.7	463.2	465.7
40°	423.5	426.2	429.0	431.7	434.4	437.3	440.3	443.4	446.4	449.4	452.0
42.5°	405.5	408.8	412.1	415.4	418.8	422.0	425.3	428.4	431.6	434.7	437.6
45°	379.8	383.4	387.1	390.7	394.3	398.1	401.9	405.6	409.5	413.2	416.2
47.5°	352.8	357.0	361.1	365.2	369.3	373.6	378.0	382.3	386.6	391.0	394.2
50°	335.4	339.7	343.8	348.1	352.4	356.9	361.6	366.3	371.0	375.7	379.2
52.5°	316.8	321.3	325.8	330.3	334.7	339.7	344.8	350.0	355.2	360.4	364.0
55°	289.6	294.6	299.6	304.6	309.7	314.9	320.4	325.8	331.3	336.7	340.8
57.5°	263.1	268.3	273.6	278.7	284.0	289.6	295.6	301.6	307.6	313.5	317.6
60°	244.5	250.0	255.5	260.9	266.4	272.2	278.5	284.7	290.9	297.1	301.4
62.5°	227.0	232.6	238.3	243.8	249.4	255.5	262.1	268.7	275.3	281.9	286.1
65°	200.1	206.1	212.0	217.9	223.8	230.2	236.8	243.4	250.1	256.8	261.4
67.5°	172.8	179.1	185.4	191.6	198.0	204.5	211.3	218.1	224.9	231.7	236.7
70°	153.7	160.2	166.7	173.3	179.8	186.7	193.9	201.3	208.6	215.9	220.7
72.5°	136.2	142.8	149.3	155.8	162.3	169.3	176.8	184.4	191.9	199.5	204.5
75°	108.6	115.7	122.9	130.0	137.1	144.5	152.1	159.7	167.3	174.9	179.9
77.5°	84.5	91.8	99.0	106.1	113.3	120.7	128.4	136.1	143.7	151.4	156.7
80°	67.6	75.1	82.5	90.0	97.4	105.0	112.9	120.8	128.8	136.6	141.8
82.5°	52.9	60.5	67.9	75.5	83.1	90.9	98.9	106.9	114.9	123.0	128.1
85°	33.4	41.0	48.7	56.3	63.8	71.6	79.7	87.7	95.8	103.8	109.0
87.5°	18.3	26.0	33.9	41.6	49.4	57.3	65.4	73.4	81.4	89.4	94.7
90°	9.4	17.9	26.5	35.1	43.7	52.5	61.8	71.0	80.2	89.3	95.0
92.5°	20.6	28.1	35.6	43.1	50.6	58.5	67.0	75.4	83.9	92.4	97.7
95°	37.5	44.2	50.9	57.7	64.4	71.9	80.3	88.5	96.9	105.2	110.4
97.5°	60.0	65.9	71.9	77.8	83.7	90.6	98.4	106.1	113.9	121.6	126.6
100°	75.3	80.9	86.4	91.9	97.5	104.0	111.6	119.1	126.6	134.2	138.9
102.5°	93.1	97.8	102.6	107.5	112.2	118.4	126.0	133.6	141.2	148.8	153.5
105°	119.9	123.8	127.6	131.5	135.4	141.1	148.6	156.1	163.7	171.3	175.5
107.5°	150.4	153.6	156.9	160.2	163.4	168.3	174.9	181.5	188.1	194.7	199.1
110°	169.4	172.4	175.3	178.3	181.2	185.8	192.2	198.5	204.7	211.1	215.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	189.8	192.2	194.5	196.9	199.3	203.4	209.3	215.2	221.1	226.9	231.3
115°	219.5	221.8	223.9	226.0	228.2	231.9	237.2	242.4	247.6	252.9	256.6
117.5°	250.1	251.6	252.9	254.2	255.6	258.7	263.5	268.3	273.1	278.0	281.6
120°	268.8	270.2	271.6	273.0	274.5	277.4	281.9	286.3	290.8	295.2	298.5
122.5°	288.6	289.5	290.4	291.3	292.2	294.9	299.4	303.9	308.4	312.8	315.9
125°	318.4	318.8	319.1	319.4	319.8	322.0	326.2	330.4	334.6	338.8	341.4
127.5°	346.5	347.1	347.6	348.2	348.7	350.8	354.2	357.6	361.0	364.4	366.7
130°	365.2	366.0	366.7	367.5	368.2	370.0	372.6	375.3	378.0	380.8	383.2
132.5°	383.3	384.2	385.1	386.0	386.9	388.4	390.6	392.8	394.9	397.1	399.3
135°	411.8	412.3	412.9	413.4	413.9	415.0	416.5	418.1	419.6	421.2	423.5
137.5°	438.1	438.5	439.0	439.4	439.9	440.8	442.0	443.2	444.4	445.7	447.6
140°	455.9	456.5	457.0	457.6	458.2	458.7	459.3	459.9	460.4	461.0	463.2
142.5°	472.6	473.1	473.5	473.9	474.4	474.7	475.0	475.3	475.6	475.9	477.9
145°	498.6	498.7	498.7	498.8	498.9	499.1	499.4	499.8	500.2	500.5	501.6
147.5°	520.8	521.1	521.6	521.9	522.4	522.7	523.1	523.3	523.7	524.0	524.3
150°	536.6	536.8	537.1	537.3	537.5	537.7	538.0	538.1	538.4	538.6	538.6
152.5°	549.7	549.9	550.3	550.5	550.9	551.1	551.3	551.3	551.5	551.6	551.8
155°	570.2	570.2	570.2	570.2	570.2	570.2	570.3	570.4	570.6	570.7	571.1
157.5°	587.6	587.5	587.4	587.3	587.1	587.1	587.2	587.3	587.4	587.5	587.9
160°	598.6	598.4	598.2	598.0	597.7	597.6	597.6	597.6	597.6	597.6	598.2
162.5°	608.4	608.1	607.8	607.4	607.2	607.1	607.2	607.3	607.3	607.4	608.0
165°	621.0	620.7	620.4	620.0	619.6	619.5	619.5	619.5	619.5	619.5	620.2
167.5°	631.1	630.6	630.2	629.7	629.3	629.1	629.2	629.3	629.4	629.5	630.2
170°	636.8	636.3	635.9	635.4	635.0	634.7	634.7	634.7	634.7	634.7	635.5
172.5°	641.2	640.8	640.3	639.9	639.4	639.3	639.3	639.3	639.3	639.3	640.0
175°	646.0	645.5	645.1	644.6	644.2	643.9	643.9	643.9	643.9	643.9	644.6
177.5°	647.9	647.6	647.2	646.8	646.4	646.2	646.2	646.2	646.2	646.2	646.8
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	627.1	627.1	627.1	627.1	627.1	627.1	627.1	627.1
2.5°	625.7	626.7	627.7	628.1	627.9	627.9	627.8	627.6
5°	624.7	625.9	627.1	627.7	627.5	627.3	627.2	627.1
7.5°	620.9	622.4	624.0	624.6	624.5	624.3	624.1	623.9
10°	617.2	618.7	620.2	620.7	620.5	620.2	619.8	619.6
12.5°	612.0	613.3	614.7	615.3	615.0	614.7	614.4	614.1
15°	602.1	603.6	605.1	605.8	605.6	605.5	605.4	605.2
17.5°	589.2	590.6	591.9	592.5	592.3	592.1	591.9	591.7
20°	580.0	581.3	582.6	583.4	583.5	583.7	583.9	584.0
22.5°	569.7	571.5	573.2	574.0	573.9	573.8	573.7	573.6
25°	552.4	554.5	556.4	557.4	557.4	557.4	557.4	557.4
27.5°	534.4	536.1	537.8	538.8	538.9	539.0	539.1	539.2
30°	522.1	523.9	525.8	526.6	526.6	526.6	526.6	526.6
32.5°	508.6	510.6	512.6	513.7	514.1	514.4	514.8	515.1
35°	488.8	491.2	493.4	494.8	495.4	496.1	496.7	497.3
37.5°	468.2	470.8	473.4	475.0	475.5	475.9	476.4	476.9
40°	454.6	457.2	459.8	461.4	462.0	462.6	463.2	463.8
42.5°	440.3	443.2	446.0	447.8	448.7	449.5	450.4	451.2
45°	419.0	421.9	424.8	426.9	428.0	429.3	430.5	431.7
47.5°	397.5	400.7	403.9	406.1	407.0	408.0	408.9	409.8
50°	382.6	386.2	389.7	391.9	393.0	394.0	395.1	396.2
52.5°	367.7	371.2	374.9	377.3	378.6	379.9	381.2	382.5
55°	344.9	349.0	353.1	355.8	357.0	358.2	359.4	360.7
57.5°	321.8	325.9	330.0	332.8	334.2	335.6	337.1	338.5
60°	305.7	309.9	314.1	317.1	318.8	320.4	322.1	323.8
62.5°	290.3	294.6	298.8	301.8	303.3	304.8	306.4	307.9
65°	265.9	270.5	275.1	278.1	279.6	281.2	282.7	284.2
67.5°	241.7	246.6	251.6	254.8	256.0	257.3	258.6	259.8
70°	225.6	230.4	235.3	238.4	240.0	241.5	243.0	244.5
72.5°	209.4	214.4	219.4	222.7	224.2	225.7	227.2	228.7
75°	184.9	189.9	194.9	198.3	200.1	202.0	203.8	205.6
77.5°	161.9	167.2	172.5	175.8	177.3	178.6	180.0	181.5
80°	147.0	152.1	157.3	160.6	162.1	163.6	165.1	166.7
82.5°	133.3	138.4	143.6	147.0	148.5	150.0	151.5	153.0
85°	114.1	119.3	124.5	127.8	129.3	130.8	132.3	133.8
87.5°	100.0	105.2	110.5	113.9	115.5	117.0	118.6	120.1
90°	100.6	106.2	111.8	115.6	117.3	119.0	120.7	122.5
92.5°	103.2	108.5	114.0	117.3	118.5	119.8	121.1	122.3
95°	115.6	120.7	125.9	129.2	130.7	132.2	133.8	135.3
97.5°	131.7	136.7	141.8	145.0	146.5	148.0	149.5	151.0
100°	143.7	148.4	153.2	156.4	158.2	159.9	161.7	163.4
102.5°	158.1	162.6	167.3	170.3	171.8	173.3	174.8	176.2
105°	179.8	184.0	188.2	191.2	192.8	194.4	196.0	197.5
107.5°	203.5	207.9	212.4	215.2	216.4	217.6	218.8	220.0
110°	219.8	224.3	228.6	231.3	232.3	233.4	234.3	235.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	235.6	240.0	244.3	247.2	248.5	249.8	251.1	252.4
115°	260.4	264.1	267.9	270.4	271.4	272.5	273.7	274.7
117.5°	285.2	288.7	292.4	294.6	295.4	296.3	297.2	298.1
120°	301.9	305.3	308.7	310.9	311.7	312.5	313.3	314.1
122.5°	319.0	322.1	325.1	327.1	327.8	328.5	329.3	330.0
125°	344.2	347.0	349.6	351.3	352.0	352.6	353.2	353.8
127.5°	369.1	371.5	373.8	375.2	375.8	376.3	376.8	377.3
130°	385.6	388.0	390.5	391.7	391.8	392.0	392.1	392.2
132.5°	401.5	403.8	406.0	407.3	407.8	408.1	408.6	409.0
135°	425.8	428.0	430.3	431.8	432.3	432.8	433.3	433.8
137.5°	449.5	451.5	453.3	454.5	454.9	455.1	455.5	455.8
140°	465.3	467.5	469.7	470.7	470.7	470.6	470.6	470.6
142.5°	479.7	481.7	483.6	484.6	484.7	484.9	485.1	485.2
145°	502.7	503.8	504.9	505.5	505.7	505.9	506.0	506.1
147.5°	524.7	525.0	525.5	525.6	525.4	525.3	525.1	525.0
150°	538.6	538.6	538.6	538.4	538.1	537.7	537.3	537.0
152.5°	552.1	552.2	552.4	552.2	551.7	551.2	550.6	550.1
155°	571.6	572.0	572.5	572.3	571.5	570.7	570.0	569.2
157.5°	588.4	588.9	589.3	589.2	588.6	588.0	587.4	586.7
160°	598.8	599.3	599.9	599.9	599.5	599.1	598.6	598.2
162.5°	608.5	609.1	609.7	609.6	608.9	608.1	607.4	606.7
165°	620.9	621.5	622.2	622.1	621.3	620.5	619.8	619.0
167.5°	630.9	631.6	632.3	632.3	631.6	630.9	630.2	629.5
170°	636.3	637.1	637.9	637.9	637.1	636.3	635.5	634.7
172.5°	640.6	641.3	642.0	642.0	641.2	640.4	639.6	638.8
175°	645.2	646.0	646.7	646.6	645.8	645.0	644.2	643.4
177.5°	647.4	647.9	648.5	648.4	647.7	647.1	646.5	645.9
180°	647.5	647.5	647.5	647.5	647.5	647.5	647.5	647.5

(END OF REPORT)