

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: P332128-927

Luminaire Tested: **S123DIW-S560D755U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332128-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S560D755U927-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4266.9 lumens
Efficiency: N/A
Efficacy: 113.5 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

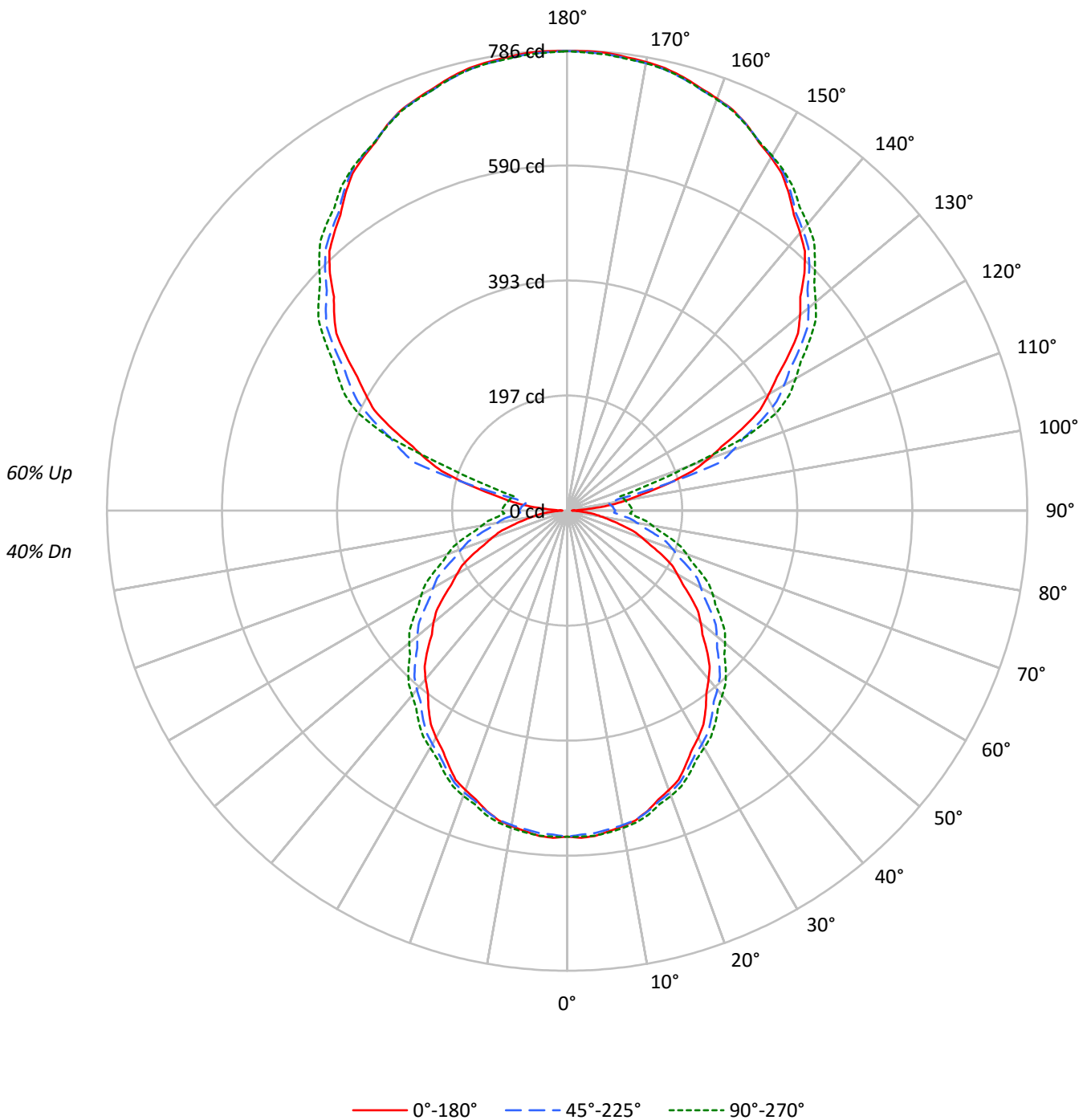
Input Watts (W): 37.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	78	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	31	26
3	78	68	61	55	71	62	56	51	51	46	42	40	37	34	31	28	26	22
4	71	60	52	46	64	55	48	43	45	40	36	36	32	29	27	25	22	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	30	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.8	1.2
10°-20°	150.5	3.5
20°-30°	225.2	5.3
30°-40°	268.9	6.3
40°-50°	281.3	6.6
50°-60°	264.0	6.2
60°-70°	220.5	5.2
70°-80°	157.8	3.7
80°-90°	96.3	2.3
90°-100°	87.5	2.1
100°-110°	179.3	4.2
110°-120°	355.5	8.3
120°-130°	432.4	10.1
130°-140°	451.8	10.6
140°-150°	417.1	9.8
150°-160°	335.2	7.9
160°-170°	216.3	5.1
170°-180°	74.5	1.7
0°-30°	428.5	10.0
0°-40°	697.4	16.3
0°-60°	1242.7	29.1
0°-90°	1717.2	40.2
90°-120°	622.4	14.6
90°-150°	1923.7	45.1
90°-180°	2550.0	59.8
0°-180°	4266.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	8	44	82	105	113	7
95°	42	44	78	100	107	49
105°	179	197	173	92	94	189
115°	329	341	367	386	394	325
125°	461	467	486	499	505	412
135°	573	576	585	597	599	441
145°	660	664	665	671	674	413
155°	727	726	726	729	726	335
165°	767	765	764	768	765	216
175°	785	782	782	786	782	75
180°	785	785	785	785	785	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.2	23.2	30.2	37.2	44.1	51.3	58.5	65.7	72.9	80.1	84.8
90°	8.5	16.4	24.2	32.2	40.1	48.3	56.9	65.4	74.0	82.5	87.7
92.5°	18.2	23.8	29.5	35.0	40.6	47.5	55.5	63.5	71.5	79.6	84.9
95°	42.2	42.1	42.1	42.1	42.1	46.0	54.0	62.1	70.1	78.1	83.3
97.5°	77.4	79.8	82.1	84.5	86.9	86.5	83.5	80.5	77.5	74.5	79.5
100°	104.0	110.9	117.8	124.7	131.6	128.0	114.1	100.1	86.0	72.0	77.0
102.5°	134.3	140.1	145.8	151.5	157.2	152.2	136.2	120.2	104.3	88.2	88.8
105°	178.6	183.2	187.9	192.6	197.3	196.6	190.8	184.9	179.0	173.2	154.0
107.5°	224.7	228.6	232.5	236.4	240.3	245.9	253.3	260.5	267.9	275.3	262.1
110°	255.5	259.0	262.4	265.9	269.3	274.5	281.3	288.1	294.9	301.7	301.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	285.3	288.3	291.2	294.1	297.1	301.8	308.4	315.0	321.6	328.2	331.7
115°	328.9	331.3	333.7	336.0	338.5	342.7	348.7	354.7	360.8	366.8	371.3
117.5°	371.5	373.5	375.5	377.4	379.4	382.9	388.1	393.2	398.4	403.5	407.8
120°	397.7	399.5	401.3	403.1	405.0	408.4	413.2	418.0	422.9	427.7	431.8
122.5°	424.7	426.0	427.3	428.6	429.9	432.9	437.7	442.4	447.1	451.9	455.6
125°	461.2	462.2	463.3	464.3	465.3	468.0	472.5	476.9	481.3	485.8	488.9
127.5°	497.1	498.0	498.9	499.8	500.7	503.0	506.9	510.8	514.7	518.5	521.6
130°	519.4	520.4	521.3	522.2	523.1	525.1	528.4	531.6	534.8	538.0	541.1
132.5°	540.4	541.5	542.5	543.4	544.5	546.3	548.8	551.4	554.0	556.6	559.5
135°	573.1	573.7	574.3	575.0	575.7	576.9	578.9	581.0	583.0	584.9	587.8
137.5°	600.9	601.8	602.7	603.6	604.4	605.5	606.6	607.7	608.8	609.9	612.7
140°	619.1	619.9	620.7	621.5	622.2	623.0	623.8	624.6	625.3	626.1	628.7
142.5°	636.4	637.0	637.7	638.3	639.1	639.6	640.1	640.6	641.0	641.5	643.7
145°	660.5	661.2	662.0	662.8	663.6	664.1	664.3	664.6	664.9	665.1	666.5
147.5°	682.6	683.2	683.8	684.4	685.0	685.4	685.7	686.0	686.2	686.4	687.1
150°	696.6	697.0	697.4	697.8	698.2	698.5	698.8	699.0	699.3	699.5	699.8
152.5°	709.2	709.4	709.6	709.7	710.0	710.1	710.3	710.4	710.6	710.7	711.1
155°	726.9	726.7	726.4	726.1	725.9	725.8	726.0	726.1	726.2	726.4	727.0
157.5°	740.7	740.7	740.6	740.6	740.6	740.5	740.4	740.2	740.1	740.0	740.8
160°	749.1	748.9	748.8	748.7	748.5	748.5	748.3	748.1	748.1	747.9	748.7
162.5°	757.0	756.7	756.3	756.0	755.7	755.4	755.3	755.2	755.0	754.9	755.8
165°	766.6	766.2	765.8	765.4	765.0	764.8	764.6	764.5	764.4	764.2	765.2
167.5°	774.0	773.5	773.0	772.5	772.0	771.7	771.7	771.7	771.7	771.7	772.7
170°	778.2	777.7	777.2	776.7	776.2	775.9	775.9	775.9	775.9	775.9	776.9
172.5°	781.0	780.4	779.7	779.2	778.6	778.2	778.4	778.5	778.6	778.7	779.7
175°	784.7	783.9	783.3	782.7	782.0	781.8	781.9	782.0	782.2	782.3	783.2
177.5°	785.5	785.1	784.5	784.0	783.5	783.3	783.4	783.5	783.6	783.7	784.5
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	89.5	94.2	98.9	101.9	103.3	104.7	106.1	107.5
90°	92.8	97.8	103.0	106.3	108.0	109.6	111.1	112.7
92.5°	90.2	95.5	100.8	104.2	105.6	106.9	108.4	109.8
95°	88.3	93.4	98.5	101.7	103.1	104.4	105.8	107.1
97.5°	84.6	89.7	94.7	98.0	99.4	100.9	102.4	103.9
100°	81.9	86.9	91.8	95.1	96.5	98.0	99.5	100.9
102.5°	89.4	90.0	90.6	91.7	93.2	94.8	96.4	98.0
105°	134.8	115.7	96.6	87.7	89.2	90.7	92.1	93.6
107.5°	248.8	235.7	222.4	207.8	191.7	175.6	159.5	143.5
110°	300.2	299.4	298.7	289.5	272.1	254.7	237.3	219.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	335.2	338.7	342.1	342.5	339.8	337.1	334.3	331.6
115°	375.8	380.3	384.9	387.9	389.5	391.2	392.8	394.3
117.5°	412.0	416.3	420.6	423.3	424.4	425.6	426.7	427.9
120°	436.0	440.1	444.3	446.8	447.7	448.7	449.6	450.6
122.5°	459.3	463.0	466.8	469.1	470.2	471.2	472.3	473.3
125°	491.9	495.0	498.1	500.3	501.5	502.7	503.9	505.1
127.5°	524.7	527.8	530.8	532.7	533.4	534.0	534.7	535.4
130°	544.2	547.2	550.3	552.2	552.7	553.3	553.8	554.3
132.5°	562.5	565.5	568.5	570.2	570.8	571.3	571.9	572.4
135°	590.6	593.4	596.2	597.8	598.1	598.3	598.7	598.9
137.5°	615.4	618.2	620.9	622.5	622.9	623.4	623.8	624.2
140°	631.2	633.8	636.4	637.8	638.3	638.7	639.1	639.4
142.5°	645.9	648.2	650.4	651.6	652.0	652.3	652.6	652.9
145°	667.8	669.2	670.5	671.5	671.9	672.5	673.0	673.6
147.5°	687.6	688.2	688.8	689.0	688.9	688.8	688.7	688.6
150°	700.1	700.3	700.5	700.6	700.5	700.4	700.3	700.1
152.5°	711.6	712.1	712.6	712.6	712.0	711.5	710.9	710.3
155°	727.6	728.3	729.0	728.9	728.1	727.3	726.5	725.7
157.5°	741.6	742.3	743.1	743.0	742.0	740.9	740.0	738.9
160°	749.5	750.3	751.0	751.0	750.0	749.2	748.2	747.3
162.5°	756.7	757.6	758.4	758.4	757.6	756.9	756.1	755.3
165°	766.3	767.3	768.3	768.4	767.5	766.6	765.7	764.8
167.5°	773.7	774.8	775.9	775.9	774.8	773.7	772.7	771.7
170°	777.9	779.0	780.1	780.1	779.0	777.9	776.9	775.9
172.5°	780.8	781.8	782.8	782.8	781.6	780.5	779.3	778.2
175°	784.1	785.1	785.9	785.8	784.8	783.8	782.8	781.7
177.5°	785.4	786.2	787.0	786.9	785.8	784.8	783.8	782.8
180°	784.7	784.7	784.7	784.7	784.7	784.7	784.7	784.7

(END OF REPORT)