

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: AMETRIX

Report Number: P189149

Luminaire Tested: A12-SI-A-1-LED-40K-D-120-S

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2019  
Report Number: P189149  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (ITL87330-GONIOPHOTOMETRY)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: AMETRIX  
Catalog Number: A12-SI-A-1-LED-40K-D-120-S  
Description: ARROWLINEAR LED LUMINAIRE, EXTRA SMALL HOUSING  
12-FOOT LONG EXTRUDED HOUSING WITH WHITE REFLECTOR AND FROSTED LENS  
Light Source: (364) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

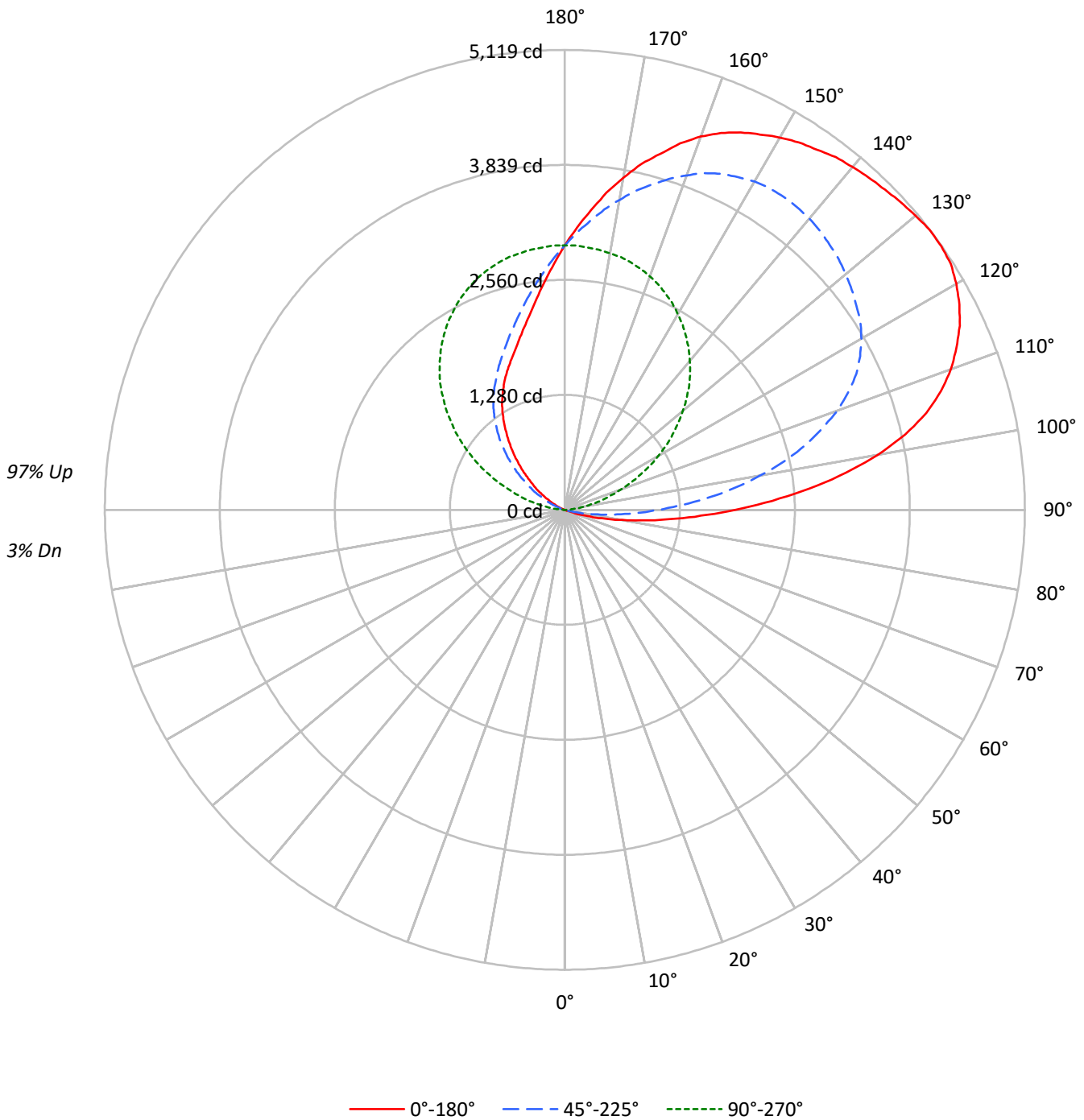
Lumens per Lamp: N/A  
Luminaire Lumens: 12514.2 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): - / - / -  
Luminous Opening: Rectangular w/ Sides (W: 12.5' x L: 0.29' x H: 0.11')  
CIE Type: Indirect

Input Watts (W): 121.1  
Input Voltage (V): NR  
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: 24 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	96	96	96	96	82	82	82	82	57	57	57	34	34	34	13	13	13	3
1	86	82	78	74	74	70	67	64	48	46	45	28	27	26	10	9	9	1
2	78	71	65	60	67	61	56	52	42	39	36	25	23	21	8	8	7	0
3	71	62	55	50	61	54	48	43	37	33	30	22	20	18	7	7	6	0
4	65	55	47	42	55	47	41	36	33	29	26	19	17	15	7	6	5	0
5	59	49	41	35	51	42	36	31	29	25	22	17	15	13	6	5	4	0
6	55	43	36	30	46	37	31	26	26	22	19	15	13	11	5	4	4	0
7	50	39	31	26	43	33	27	23	23	19	16	14	11	10	5	4	3	0
8	46	35	28	23	40	30	24	20	21	17	14	12	10	8	4	3	3	0
9	43	32	25	20	37	27	21	17	19	15	12	11	9	7	4	3	2	0
10	40	29	22	17	34	25	19	15	17	13	11	10	8	7	4	3	2	0

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	0	0	0	0	0
5°	0	0	0	0	0
10°	0	0	0	0	0
15°	0	0	0	0	0
20°	0	0	0	0	0
25°	0	0	0	0	0
30°	0	0	0	0	0
35°	0	0	0	0	0
40°	0	0	0	0	0
45°	0	0	0	0	0
50°	0	0	0	0	0
55°	0	0	0	0	0
60°	0	0	0	0	0
65°	0	0	0	0	0
70°	270	0	0	0	0
75°	1385	216	0	0	0
80°	3577	1654	0	0	0
85°	7601	4852	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 90°  
 Luminance: 14901 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	0.0	0.0
10°-20°	0.0	0.0
20°-30°	0.0	0.0
30°-40°	0.0	0.0
40°-50°	0.0	0.0
50°-60°	0.0	0.0
60°-70°	1.0	0.0
70°-80°	62.4	0.5
80°-90°	324.7	2.6
90°-100°	839.7	6.7
100°-110°	1399.0	11.2
110°-120°	1781.7	14.2
120°-130°	1966.3	15.7
130°-140°	1943.1	15.5
140°-150°	1734.4	13.9
150°-160°	1345.6	10.8
160°-170°	835.3	6.7
170°-180°	281.0	2.2
0°-30°	0.0	0.0
0°-40°	0.0	0.0
0°-60°	0.0	0.0
0°-90°	388.1	3.1
90°-120°	4020.4	32.1
90°-150°	9664.2	77.2
90°-180°	12126.0	96.9
0°-180°	12514.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	0	0	0	0	0	
5°	0	0	0	0	0	0
15°	0	0	0	0	0	0
25°	0	0	0	0	0	0
35°	0	0	0	0	0	0
45°	0	0	0	0	0	0
55°	0	0	0	0	0	0
65°	0	0	0	0	0	8
75°	289	38	0	0	0	335
85°	1182	585	0	0	0	861
90°	1893	1044	0	0	0	1043
95°	2736	1623	76	6	6	2400
105°	4163	2767	440	19	25	4357
115°	4849	3578	931	201	76	4791
125°	5113	3962	1465	541	340	4573
135°	5038	4170	1956	962	723	3904
145°	4893	4251	2352	1384	1176	3077
155°	4635	4126	2654	1748	1585	2144
165°	4100	3748	2849	2144	1962	1172
175°	3346	3226	2931	2660	2553	332
180°	2943	2943	2943	2943	2943	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	62.9	69.2	50.3	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	157.2	157.2	132.1	88.0	31.4	0.0	0.0	0.0	0.0	0.0	0.0
75°	289.3	289.3	257.8	201.2	119.5	37.7	0.0	0.0	0.0	0.0	0.0
77.5°	452.8	446.5	408.8	339.6	239.0	125.8	18.9	0.0	0.0	0.0	0.0
80°	654.1	647.8	603.7	515.7	396.2	245.3	94.3	0.0	0.0	0.0	0.0
82.5°	893.0	886.7	830.1	729.5	584.9	402.5	201.2	44.0	0.0	0.0	0.0
85°	1182.3	1176.0	1106.9	987.4	817.6	584.9	333.3	132.1	12.6	0.0	0.0
87.5°	1515.6	1490.5	1427.6	1282.9	1062.8	798.7	496.8	239.0	56.6	0.0	0.0
90°	1893.0	1867.8	1792.4	1622.6	1358.4	1044.0	691.8	371.0	132.1	12.6	0.0
92.5°	2308.0	2301.8	2188.6	1987.3	1679.2	1314.4	918.2	528.3	232.7	62.9	25.2
95°	2735.7	2729.4	2603.6	2370.9	2025.0	1622.6	1150.9	704.4	358.5	138.4	75.5
97.5°	3157.1	3150.8	2993.5	2754.6	2370.9	1924.4	1402.4	899.3	496.8	232.7	150.9
100°	3540.7	3528.1	3364.6	3113.0	2710.5	2213.7	1654.0	1094.3	641.5	333.3	232.7
102.5°	3880.3	3855.1	3697.9	3433.8	3025.0	2503.0	1899.3	1295.5	805.0	452.8	333.3
105°	4163.3	4131.8	3987.2	3716.8	3295.4	2767.1	2144.5	1503.1	968.5	578.6	440.2
107.5°	4389.7	4364.5	4213.6	3955.8	3540.7	2999.8	2377.2	1704.3	1138.3	710.7	547.1
110°	4572.1	4553.2	4414.9	4157.0	3748.2	3226.2	2591.1	1905.6	1314.4	855.3	672.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
112.5°	4716.7	4704.1	4572.1	4314.2	3930.6	3414.9	2779.7	2094.2	1484.2	999.9	798.7
115°	4848.8	4836.2	4710.4	4465.2	4081.5	3578.4	2955.8	2276.6	1660.3	1144.6	930.8
117.5°	4949.4	4936.8	4811.1	4572.1	4201.0	3704.2	3100.5	2446.4	1842.7	1295.5	1069.1
120°	5031.2	5012.3	4899.1	4666.4	4301.6	3811.1	3226.2	2609.9	2012.5	1446.5	1201.2
122.5°	5094.1	5075.2	4968.3	4729.3	4377.1	3899.2	3345.7	2767.1	2176.0	1591.1	1339.5
125°	5112.9	5100.3	4999.7	4760.7	4414.9	3962.0	3452.6	2905.5	2320.6	1735.8	1465.3
127.5°	5119.2	5106.6	5006.0	4773.3	4446.3	4024.9	3547.0	3031.3	2459.0	1867.8	1591.1
130°	5094.1	5094.1	4993.4	4773.3	4465.2	4081.5	3635.0	3150.8	2578.5	1993.6	1716.9
132.5°	5068.9	5062.6	4974.6	4767.0	4484.0	4131.8	3716.8	3251.4	2691.7	2113.1	1836.4
135°	5037.5	5037.5	4955.7	4767.0	4502.9	4169.6	3786.0	3339.4	2786.0	2220.0	1955.9
137.5°	5012.3	5012.3	4936.8	4760.7	4515.5	4207.3	3848.8	3408.6	2880.3	2326.9	2062.8
140°	4980.9	4980.9	4905.4	4748.2	4521.8	4232.5	3886.6	3465.2	2943.2	2421.2	2163.4
142.5°	4949.4	4949.4	4873.9	4729.3	4521.8	4245.0	3924.3	3509.2	3012.4	2509.3	2264.0
145°	4892.8	4899.1	4836.2	4697.9	4502.9	4251.3	3936.9	3534.4	3062.7	2591.1	2352.1
147.5°	4848.8	4848.8	4792.2	4660.1	4477.7	4245.0	3936.9	3547.0	3106.7	2660.2	2440.1
150°	4785.9	4785.9	4729.3	4622.4	4452.6	4219.9	3930.6	3553.3	3138.2	2723.1	2515.6
152.5°	4710.4	4716.7	4660.1	4559.5	4396.0	4175.9	3892.9	3540.7	3157.1	2779.7	2591.1
155°	4635.0	4641.3	4590.9	4490.3	4333.1	4125.6	3855.1	3528.1	3175.9	2830.0	2653.9
157.5°	4540.6	4546.9	4496.6	4396.0	4251.3	4056.4	3792.2	3503.0	3188.5	2867.8	2716.8
160°	4421.1	4427.4	4370.8	4282.8	4144.4	3962.0	3729.4	3465.2	3182.2	2905.5	2767.1
162.5°	4276.5	4276.5	4232.5	4150.7	4018.6	3861.4	3653.9	3421.2	3175.9	2930.7	2811.2
165°	4100.4	4113.0	4075.2	3999.8	3886.6	3748.2	3565.8	3364.6	3157.1	2949.5	2848.9
167.5°	3943.2	3936.9	3905.4	3848.8	3748.2	3635.0	3477.8	3308.0	3138.2	2968.4	2880.3
170°	3754.5	3748.2	3723.1	3672.8	3597.3	3503.0	3377.2	3245.1	3113.0	2968.4	2899.2
172.5°	3559.6	3547.0	3528.1	3496.7	3440.1	3370.9	3276.5	3175.9	3075.3	2968.4	2918.1
175°	3345.7	3345.7	3333.1	3308.0	3270.3	3226.2	3163.3	3094.2	3031.3	2962.1	2930.7
177.5°	3144.5	3144.5	3138.2	3125.6	3106.7	3087.9	3056.4	3025.0	2993.5	2955.8	2943.2
180°	2943.2	2943.2	2943.2	2943.2	2943.2	2943.2	2943.2	2943.2	2943.2	2943.2	2943.2



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**CANDELA DISTRIBUTION (continued):**

	112.5°	135°	157.5°	180°
0°	0.0	0.0	0.0	0.0
2.5°	0.0	0.0	0.0	0.0
5°	0.0	0.0	0.0	0.0
7.5°	0.0	0.0	0.0	0.0
10°	0.0	0.0	0.0	0.0
12.5°	0.0	0.0	0.0	0.0
15°	0.0	0.0	0.0	0.0
17.5°	0.0	0.0	0.0	0.0
20°	0.0	0.0	0.0	0.0
22.5°	0.0	0.0	0.0	0.0
25°	0.0	0.0	0.0	0.0
27.5°	0.0	0.0	0.0	0.0
30°	0.0	0.0	0.0	0.0
32.5°	0.0	0.0	0.0	0.0
35°	0.0	0.0	0.0	0.0
37.5°	0.0	0.0	0.0	0.0
40°	0.0	0.0	0.0	0.0
42.5°	0.0	0.0	0.0	0.0
45°	0.0	0.0	0.0	0.0
47.5°	0.0	0.0	0.0	0.0
50°	0.0	0.0	0.0	0.0
52.5°	0.0	0.0	0.0	0.0
55°	0.0	0.0	0.0	0.0
57.5°	0.0	0.0	0.0	0.0
60°	0.0	0.0	0.0	0.0
62.5°	0.0	0.0	0.0	0.0
65°	0.0	0.0	0.0	0.0
67.5°	0.0	0.0	0.0	0.0
70°	0.0	0.0	0.0	0.0
72.5°	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0
92.5°	0.0	0.0	6.3	6.3
95°	0.0	6.3	6.3	6.3
97.5°	6.3	6.3	12.6	12.6
100°	18.9	12.6	12.6	12.6
102.5°	62.9	18.9	18.9	18.9
105°	113.2	18.9	25.2	25.2
107.5°	182.4	37.7	25.2	25.2
110°	257.8	75.5	31.4	31.4



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**CANDELA DISTRIBUTION (continued):**

	112.5°	135°	157.5°	180°
112.5°	339.6	132.1	56.6	44.0
115°	427.6	201.2	100.6	75.5
117.5°	522.0	270.4	163.5	125.8
120°	622.6	352.2	226.4	188.7
122.5°	729.5	446.5	308.2	257.8
125°	830.1	540.9	389.9	339.6
127.5°	937.1	641.5	478.0	427.6
130°	1044.0	748.4	572.3	515.7
132.5°	1150.9	855.3	679.2	616.3
135°	1257.8	962.2	786.1	723.2
137.5°	1358.4	1075.4	899.3	836.4
140°	1459.0	1176.0	1012.5	949.6
142.5°	1566.0	1282.9	1125.7	1062.8
145°	1660.3	1383.6	1232.6	1176.0
147.5°	1760.9	1477.9	1345.8	1289.2
150°	1855.2	1566.0	1446.5	1396.1
152.5°	1949.6	1654.0	1534.5	1490.5
155°	2050.2	1748.3	1622.6	1584.8
157.5°	2144.5	1836.4	1710.6	1672.9
160°	2238.9	1930.7	1804.9	1760.9
162.5°	2333.2	2037.6	1899.3	1855.2
165°	2433.8	2144.5	2006.2	1962.2
167.5°	2521.9	2264.0	2125.7	2081.6
170°	2609.9	2389.8	2264.0	2220.0
172.5°	2691.7	2521.9	2421.2	2377.2
175°	2773.4	2660.2	2584.8	2553.3
177.5°	2861.5	2804.9	2754.6	2742.0
180°	2943.2	2943.2	2943.2	2943.2

(END OF REPORT)