

Scaled data based on original data using
LM-66-11 Electrical and Photometric Measurements of Single-Ended Compact
Fluorescent Lamps

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: SHAPER

Report Number: 19149

Luminaire Tested: **612-A-CF2/13**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 19149
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 612-A-CF2/13
Description: INTERIOR WALL MOUNT LUMINAIRE WITH WHITE INTERIOR AND WHITE PLASTIC LENS
Light Source: TWO 13 WATT CPFL LAMPS

CF13DS/E/830. LUMEN RATING = 1600 LMS.

Ballast/Driver: -

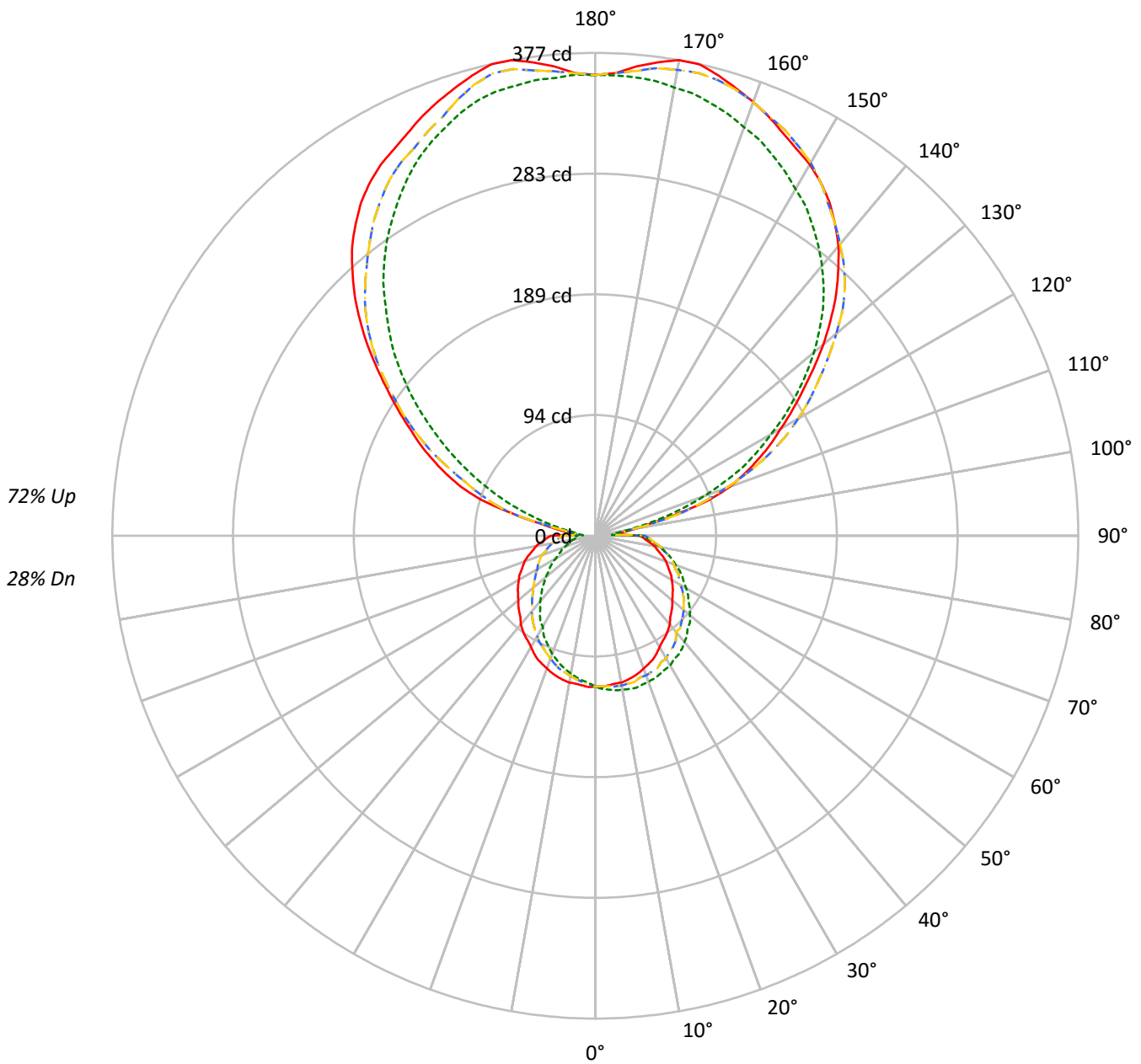
Summary

Lumens per Lamp: 1600 (1 lamp)
Luminaire Lumens: 1510.1 lumens
Efficiency: 94.4%
Efficacy: 53.9 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.4
Luminous Opening: (L: 0' x W: -0.58' x H: 0.29'
CIE Type: Semi-Indirect

Input Watts (W): 28
Input Voltage (V): NR
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



— 0°-180° - - 45°-225° - - - 90°-270° - - - 135°-315°



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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	86	86	86	86	67	67	67	50	50	50	34	34	34	27
1	87	82	78	75	77	73	70	67	57	55	53	42	41	39	28	27	27	20
2	78	71	65	60	70	64	58	54	49	46	43	36	34	32	24	23	22	16
3	71	62	55	49	63	56	50	45	43	39	35	32	29	27	21	19	18	13
4	65	55	47	41	58	49	42	38	38	33	30	28	25	22	19	17	15	11
5	59	48	41	35	53	43	37	32	34	29	25	25	22	19	17	15	13	9
6	55	43	36	30	48	39	32	27	30	26	22	22	19	17	15	13	11	8
7	50	39	31	26	45	35	28	24	27	23	19	20	17	14	14	12	10	7
8	47	35	28	23	41	32	25	21	25	20	17	19	15	13	13	10	9	6
9	43	32	25	20	38	29	23	18	23	18	15	17	14	11	12	9	8	6
10	40	29	22	18	36	26	20	16	21	16	13	16	12	10	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	Luminous shape not found,			
5°	reference photometric report, or contact			
10°	the photometric lab for calculations.			
15°				
20°				
25°				
30°				
35°				
40°				
45°				
50°				
55°				
60°				
65°				
70°				
75°				
80°				
85°				



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	11.1	0.7	0.7
10°-20°	31.9	2.1	2.0
20°-30°	48.6	3.2	3.0
30°-40°	59.4	3.9	3.7
40°-50°	63.6	4.2	4.0
50°-60°	62.9	4.2	3.9
60°-70°	58.2	3.9	3.6
70°-80°	50.2	3.3	3.1
80°-90°	39.5	2.6	2.5
90°-100°	21.9	1.5	1.4
100°-110°	67.9	4.5	4.2
110°-120°	132.6	8.8	8.3
120°-130°	177.0	11.7	11.1
130°-140°	199.6	13.2	12.5
140°-150°	191.6	12.7	12.0
150°-160°	156.8	10.4	9.8
160°-170°	102.6	6.8	6.4
170°-180°	34.9	2.3	2.2
0°-30°	91.6	6.1	5.7
0°-40°	150.9	10.0	9.4
0°-60°	277.4	18.4	17.3
0°-90°	425.2	28.2	26.6
90°-120°	222.4	14.7	13.9
90°-150°	790.5	52.3	49.4
90°-180°	1085.0	71.8	67.8
0°-180°	1510.1	100.0	94.4

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	118	118	118	118	118	
5°	117	121	117	114	117	11
15°	114	123	114	104	114	32
25°	106	119	106	91	106	49
35°	96	113	96	75	96	60
45°	84	102	84	59	84	65
55°	74	89	74	43	74	66
65°	64	75	64	30	64	63
75°	52	60	52	21	52	56
85°	40	44	40	15	40	34
90°	34	36	34	16	34	17
95°	19	14	19	12	19	18
105°	67	54	67	41	67	73
115°	140	127	140	99	140	138
125°	198	191	198	164	198	178
135°	266	251	266	228	266	204
145°	318	296	318	283	318	199
155°	347	328	347	326	347	160
165°	372	349	372	352	372	105
175°	368	359	368	359	368	35
180°	360	360	360	360	360	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	117.8	117.8	117.8	117.8	117.8	117.8	117.8	117.8	117.8	117.8	117.8
2.5°	118.3	117.5	117.5	118.7	119.6	118.7	117.5	117.5	118.3	117.5	116.0
5°	117.3	116.9	117.9	119.2	120.6	119.2	117.9	116.9	117.3	116.9	114.8
7.5°	116.5	117.5	118.6	119.6	121.7	119.6	118.6	117.5	116.5	116.0	112.9
10°	116.4	117.3	118.7	119.3	122.1	119.3	118.7	117.3	116.4	115.0	111.2
12.5°	115.4	116.0	118.3	120.0	122.5	120.0	118.3	116.0	115.4	113.5	109.4
15°	114.0	115.8	118.2	117.9	122.9	117.9	118.2	115.8	114.0	112.5	107.7
17.5°	112.4	114.4	116.0	119.3	121.9	119.3	116.0	114.4	112.4	109.6	105.0
20°	110.3	111.7	116.0	119.2	121.2	119.2	116.0	111.7	110.3	107.7	102.1
22.5°	108.4	110.8	115.0	117.5	120.6	117.5	115.0	110.8	108.4	105.4	99.4
25°	106.5	109.2	114.4	116.9	119.2	116.9	114.4	109.2	106.5	103.7	96.4
27.5°	103.6	107.7	111.2	115.2	117.7	115.2	111.2	107.7	103.6	99.4	94.0
30°	100.3	104.4	110.6	113.5	117.1	113.5	110.6	104.4	100.3	97.5	90.6
32.5°	97.6	102.9	107.5	111.9	114.1	111.9	107.5	102.9	97.6	94.7	87.5
35°	95.7	99.8	105.8	110.0	113.4	110.0	105.8	99.8	95.7	91.8	84.1
37.5°	93.1	96.9	103.3	107.0	111.1	107.0	103.3	96.9	93.1	89.1	80.8
40°	90.4	94.1	97.9	104.6	108.3	104.6	97.9	94.1	90.4	86.2	77.1
42.5°	86.5	91.2	98.1	102.5	105.8	102.5	98.1	91.2	86.5	81.7	73.0
45°	84.0	88.8	95.2	99.6	101.7	99.6	95.2	88.8	84.0	78.1	69.7
47.5°	81.4	85.8	92.7	96.4	100.2	96.4	92.7	85.8	81.4	76.2	66.2
50°	78.5	83.7	90.0	92.7	96.4	92.7	90.0	83.7	78.5	73.0	63.3
52.5°	75.9	81.2	86.9	90.4	93.1	90.4	86.9	81.2	75.9	70.4	60.1
55°	73.8	78.3	84.1	87.1	88.8	87.1	84.1	78.3	73.8	68.1	57.4
57.5°	71.4	75.3	80.8	83.3	85.8	83.3	80.8	75.3	71.4	66.2	54.9
60°	68.9	72.0	76.5	80.0	81.8	80.0	76.5	72.0	68.9	62.9	52.2
62.5°	66.8	70.0	73.5	76.8	77.7	76.8	73.5	70.0	66.8	61.4	50.7
65°	63.5	68.1	71.8	72.9	74.9	72.9	71.8	68.1	63.5	58.3	48.3
67.5°	61.1	65.2	67.5	70.1	71.2	70.1	67.5	65.2	61.1	56.0	46.4
70°	58.7	62.3	65.3	65.6	66.6	65.6	65.3	62.3	58.7	54.3	44.7
72.5°	55.8	59.1	62.3	62.3	63.3	62.3	62.3	59.1	55.8	50.3	40.6
75°	52.2	55.8	59.3	58.3	59.5	58.3	59.3	55.8	52.2	48.0	38.9
77.5°	49.3	53.6	54.8	54.9	55.4	54.9	54.8	53.6	49.3	45.4	36.6
80°	47.0	50.1	52.2	51.4	51.0	51.4	52.2	50.1	47.0	42.2	34.1
82.5°	43.5	46.4	48.3	47.7	47.2	47.7	48.3	46.4	43.5	39.7	32.2
85°	40.0	44.3	44.9	44.5	43.5	44.5	44.9	44.3	40.0	36.6	29.5
87.5°	37.6	40.6	41.6	40.6	39.7	40.6	41.6	40.6	37.6	33.7	27.0
90°	34.5	36.4	38.9	36.4	36.0	36.4	38.9	36.4	34.5	32.0	26.6
92.5°	17.4	17.4	16.3	14.4	13.0	14.4	16.3	17.4	17.4	15.5	13.0
95°	19.1	19.9	17.2	14.9	14.3	14.9	17.2	19.9	19.1	17.0	14.4
97.5°	22.3	22.8	20.3	19.5	16.7	19.5	20.3	22.8	22.3	19.0	17.8
100°	31.7	32.2	29.5	32.2	25.5	32.2	29.5	32.2	31.7	29.3	26.7
102.5°	43.9	48.7	47.8	50.6	38.4	50.6	47.8	48.7	43.9	39.1	41.6
105°	67.1	68.9	70.8	71.4	54.3	71.4	70.8	68.9	67.1	62.4	67.2
107.5°	93.6	87.9	89.5	92.1	72.0	92.1	89.5	87.9	93.6	91.7	82.9
110°	111.4	106.7	108.3	111.9	90.2	111.9	108.3	106.7	111.4	105.0	96.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	125.8	124.0	128.7	129.9	108.2	129.9	128.7	124.0	125.8	121.5	110.0
115°	139.7	139.6	148.6	148.4	127.1	148.4	148.6	139.6	139.7	134.2	127.1
117.5°	153.9	155.9	166.9	166.3	142.9	166.3	166.9	155.9	153.9	148.4	145.9
120°	167.0	171.3	183.0	183.3	158.2	183.3	183.0	171.3	167.0	165.1	162.2
122.5°	182.4	187.4	198.5	198.5	175.5	198.5	198.5	187.4	182.4	182.4	178.6
125°	197.7	204.1	213.2	212.8	191.4	212.8	213.2	204.1	197.7	199.1	193.9
127.5°	214.7	220.9	229.3	226.6	207.2	226.6	229.3	220.9	214.7	216.0	210.9
130°	232.3	236.8	245.6	240.6	222.8	240.6	245.6	236.8	232.3	233.1	226.4
132.5°	249.1	254.2	261.9	253.7	237.0	253.7	261.9	254.2	249.1	249.3	240.8
135°	265.7	270.2	275.4	266.5	251.4	266.5	275.4	270.2	265.7	265.0	254.2
137.5°	280.7	283.3	287.1	277.9	263.7	277.9	287.1	283.3	280.7	278.1	265.8
140°	295.3	295.3	297.3	288.8	275.2	288.8	297.3	295.3	295.3	290.2	277.3
142.5°	307.3	307.3	307.3	298.9	285.9	298.9	307.3	307.3	307.3	301.1	289.2
145°	318.3	316.7	316.7	308.3	295.6	308.3	316.7	316.7	318.3	310.2	301.1
147.5°	327.3	326.5	327.4	318.2	305.4	318.2	327.4	326.5	327.3	319.2	311.3
150°	334.7	335.3	336.1	325.9	312.5	325.9	336.1	335.3	334.7	326.5	321.1
152.5°	340.3	343.8	343.2	333.8	320.5	333.8	343.2	343.8	340.3	334.7	328.6
155°	346.7	351.1	349.7	340.0	327.6	340.0	349.7	351.1	346.7	343.2	334.1
157.5°	354.1	358.2	354.5	346.4	334.7	346.4	354.5	358.2	354.1	349.0	341.6
160°	360.4	364.0	360.3	351.1	339.4	351.1	360.3	364.0	360.4	354.5	348.2
162.5°	366.1	368.8	365.1	354.9	345.1	354.9	365.1	368.8	366.1	360.7	357.0
165°	371.9	373.0	368.4	359.3	349.4	359.3	368.4	373.0	371.9	368.1	364.7
167.5°	376.9	374.9	370.1	361.7	353.6	361.7	370.1	374.9	376.9	374.3	369.7
170°	377.1	374.7	369.3	362.2	355.3	362.2	369.3	374.7	377.1	375.8	369.9
172.5°	372.8	372.2	368.2	360.1	358.2	360.1	368.2	372.2	372.8	371.8	366.4
175°	367.8	367.4	364.3	360.5	359.3	360.5	364.3	367.4	367.8	365.3	364.0
177.5°	361.5	362.4	361.6	359.5	359.7	359.5	361.6	362.4	361.5	361.6	361.3
180°	359.7	359.7	359.7	359.7	359.7	359.7	359.7	359.7	359.7	359.7	359.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	117.8	117.8	117.8	117.8	117.8	117.8
2.5°	115.2	115.0	115.2	116.0	117.5	118.3
5°	113.4	113.5	113.4	114.8	116.9	117.3
7.5°	111.7	111.7	111.7	112.9	116.0	116.5
10°	109.6	109.2	109.6	111.2	115.0	116.4
12.5°	107.7	106.9	107.7	109.4	113.5	115.4
15°	104.6	104.4	104.6	107.7	112.5	114.0
17.5°	102.5	101.2	102.5	105.0	109.6	112.4
20°	99.2	98.3	99.2	102.1	107.7	110.3
22.5°	95.4	94.3	95.4	99.4	105.4	108.4
25°	93.1	90.8	93.1	96.4	103.7	106.5
27.5°	88.9	87.5	88.9	94.0	99.4	103.6
30°	85.8	82.0	85.8	90.6	97.5	100.3
32.5°	81.4	79.8	81.4	87.5	94.7	97.6
35°	77.7	75.3	77.7	84.1	91.8	95.7
37.5°	74.6	70.6	74.6	80.8	89.1	93.1
40°	71.0	66.8	71.0	77.1	86.2	90.4
42.5°	65.6	62.4	65.6	73.0	81.7	86.5
45°	61.6	58.7	61.6	69.7	78.1	84.0
47.5°	58.1	54.1	58.1	66.2	76.2	81.4
50°	54.8	50.6	54.8	63.3	73.0	78.5
52.5°	51.0	46.0	51.0	60.1	70.4	75.9
55°	46.8	43.2	46.8	57.4	68.1	73.8
57.5°	43.6	39.9	43.6	54.9	66.2	71.4
60°	39.9	35.7	39.9	52.2	62.9	68.9
62.5°	37.2	32.8	37.2	50.7	61.4	66.8
65°	34.2	29.7	34.2	48.3	58.3	63.5
67.5°	32.2	28.3	32.2	46.4	56.0	61.1
70°	30.5	25.3	30.5	44.7	54.3	58.7
72.5°	28.3	22.8	28.3	40.6	50.3	55.8
75°	27.0	21.2	27.0	38.9	48.0	52.2
77.5°	24.9	19.0	24.9	36.6	45.4	49.3
80°	23.2	17.4	23.2	34.1	42.2	47.0
82.5°	21.2	15.7	21.2	32.2	39.7	43.5
85°	19.3	14.7	19.3	29.5	36.6	40.0
87.5°	19.3	13.7	19.3	27.0	33.7	37.6
90°	19.5	15.7	19.5	26.6	32.0	34.5
92.5°	11.5	9.6	11.5	13.0	15.5	17.4
95°	13.2	12.2	13.2	14.4	17.0	19.1
97.5°	18.0	14.3	18.0	17.8	19.0	22.3
100°	29.0	19.5	29.0	26.7	29.3	31.7
102.5°	46.0	29.3	46.0	41.6	39.1	43.9
105°	60.6	40.7	60.6	67.2	62.4	67.1
107.5°	74.6	53.0	74.6	82.9	91.7	93.6
110°	87.9	68.5	87.9	96.4	105.0	111.4



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	105.4	83.3	105.4	110.0	121.5	125.8
115°	122.3	98.8	122.3	127.1	134.2	139.7
117.5°	139.0	114.8	139.0	145.9	148.4	153.9
120°	153.6	131.1	153.6	162.2	165.1	167.0
122.5°	168.6	147.7	168.6	178.6	182.4	182.4
125°	183.0	164.5	183.0	193.9	199.1	197.7
127.5°	197.2	181.5	197.2	210.9	216.0	214.7
130°	211.2	197.6	211.2	226.4	233.1	232.3
132.5°	225.4	213.8	225.4	240.8	249.3	249.1
135°	238.7	228.0	238.7	254.2	265.0	265.7
137.5°	252.3	242.0	252.3	265.8	278.1	280.7
140°	265.6	257.5	265.6	277.3	290.2	295.3
142.5°	277.9	270.4	277.9	289.2	301.1	307.3
145°	289.2	283.1	289.2	301.1	310.2	318.3
147.5°	299.6	294.4	299.6	311.3	319.2	327.3
150°	310.6	305.4	310.6	321.1	326.5	334.7
152.5°	319.4	316.1	319.4	328.6	334.7	340.3
155°	329.3	325.5	329.3	334.1	343.2	346.7
157.5°	337.8	333.4	337.8	341.6	349.0	354.1
160°	345.9	340.0	345.9	348.2	354.5	360.4
162.5°	352.8	347.0	352.8	357.0	360.7	366.1
165°	358.4	352.2	358.4	364.7	368.1	371.9
167.5°	361.0	355.5	361.0	369.7	374.3	376.9
170°	361.1	356.8	361.1	369.9	375.8	377.1
172.5°	361.7	358.8	361.7	366.4	371.8	372.8
175°	361.3	358.8	361.3	364.0	365.3	367.8
177.5°	360.1	360.3	360.1	361.3	361.6	361.5
180°	359.7	359.7	359.7	359.7	359.7	359.7

(END OF REPORT)