

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: 16791

Luminaire Tested: **648-CF2/26-120SSB-PB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 16791
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 648-CF2/26-120SSB-PB
Description: WALL SCONCE LUMINAIRE
WITH WHITE INTERIOR AND WHITE PLASTIC BOWL LENS WITH OPEN TOP
Light Source: TWO SYLVANIA 26 WATT CPFL LAMPS

CF26DD/E/841. LUMEN RATING = 3650 LMS.

Ballast/Driver: -

Summary

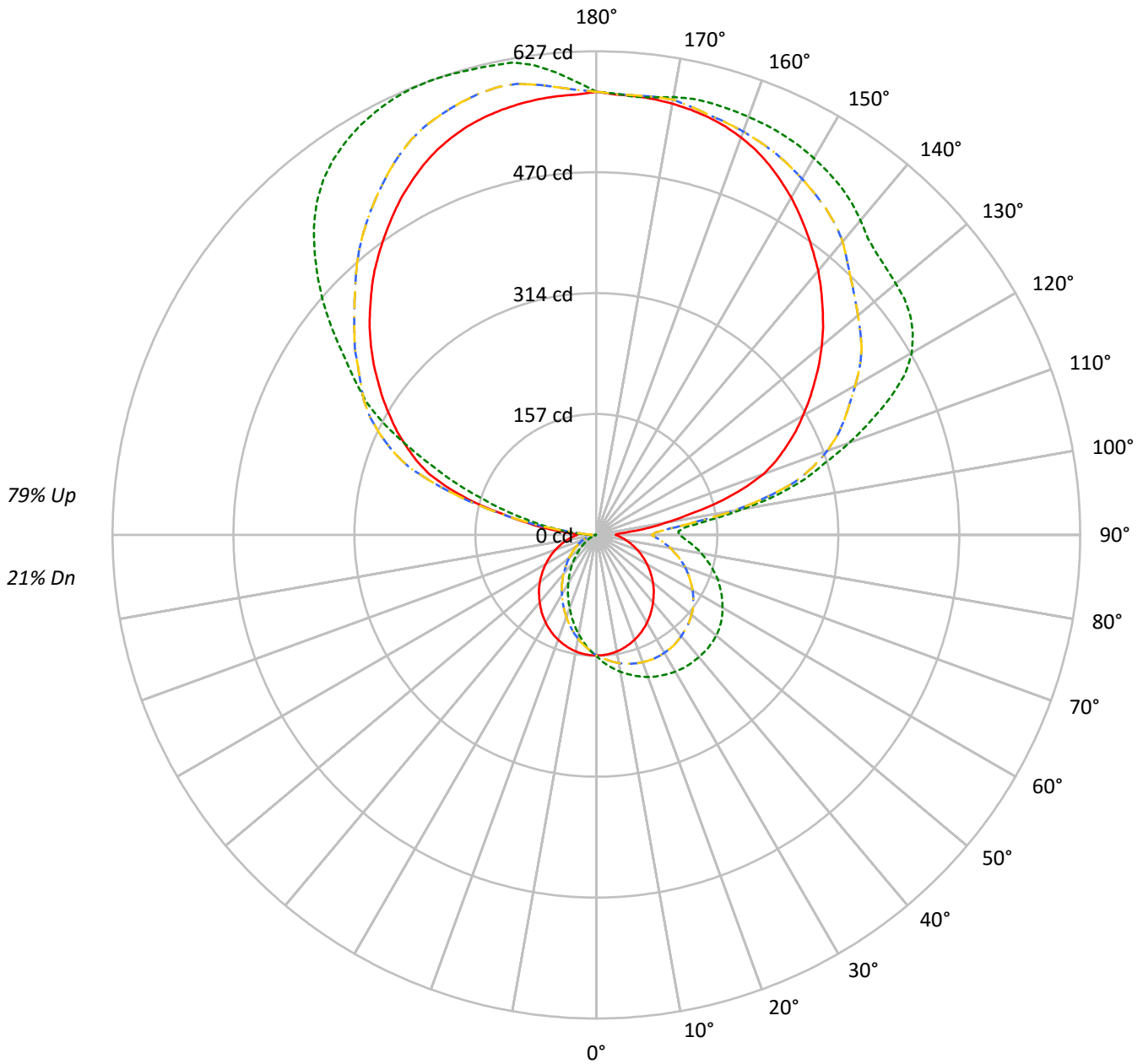
Lumens per Lamp: 3650 (1 lamp)
Luminaire Lumens: 2682.2 lumens
Efficiency: 73.5%
Efficacy: 58.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.33 / 1.41
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Semi-Indirect

Input Watts (W): 46
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	74	74	74	74	65	65	65	65	49	49	49	35	35	35	22	22	22	16
1	67	63	60	58	59	56	53	51	42	41	39	30	29	28	18	18	17	12
2	60	55	50	46	53	49	45	41	37	34	32	26	24	23	16	15	14	9
3	55	48	43	38	48	42	38	34	32	29	26	23	21	19	14	13	12	8
4	50	42	36	32	44	37	33	29	28	25	22	20	18	16	12	11	10	6
5	46	37	32	27	40	33	28	24	25	22	19	18	15	14	11	9	8	6
6	42	33	28	23	37	30	25	21	23	19	16	16	14	12	10	8	7	5
7	39	30	24	20	34	27	22	18	20	17	14	14	12	10	9	7	6	4
8	36	27	21	18	31	24	19	16	18	15	12	13	11	9	8	7	6	4
9	33	24	19	16	29	22	17	14	17	13	11	12	10	8	7	6	5	3
10	31	22	17	14	27	20	15	12	15	12	10	11	9	7	7	6	5	3

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	Luminaire represents a point source (luminous area is zero).			
5°	No luminance values can be calculated.			
10°				
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°	14.8	0.6	0.4
10°-20°	42.3	1.6	1.2
20°-30°	64.5	2.4	1.8
30°-40°	79.5	3.0	2.2
40°-50°	86.4	3.2	2.4
50°-60°	85.8	3.2	2.4
60°-70°	78.1	2.9	2.1
70°-80°	65.4	2.4	1.8
80°-90°	49.9	1.9	1.4
90°-100°	75.2	2.8	2.1
100°-110°	213.1	7.9	5.8
110°-120°	314.1	11.7	8.6
120°-130°	355.6	13.3	9.7
130°-140°	355.2	13.2	9.7
140°-150°	324.6	12.1	8.9
150°-160°	258.2	9.6	7.1
160°-170°	164.1	6.1	4.5
170°-180°	55.4	2.1	1.5
0°-30°	121.6	4.5	3.3
0°-40°	201.1	7.5	5.5
0°-60°	373.3	13.9	10.2
0°-90°	566.8	21.1	15.5
90°-120°	602.4	22.5	16.5
90°-150°	1637.7	61.1	44.9
90°-180°	2115.0	78.9	57.9
0°-180°	2682.2	100.0	73.5

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	156	156	156	156	156	
5°	156	170	156	145	156	15
15°	150	189	150	116	150	42
25°	138	201	138	87	138	64
35°	123	207	123	60	123	77
45°	105	206	105	37	105	81
55°	86	197	86	19	86	77
65°	66	179	66	8	66	65
75°	47	153	47	2	47	50
85°	31	122	31	0	31	27
90°	25	107	25	0	25	14
95°	40	116	40	27	40	45
105°	164	280	164	122	164	171
115°	272	420	272	266	272	269
125°	345	497	345	397	345	309
135°	415	514	415	516	415	320
145°	477	552	477	594	477	299
155°	530	572	530	624	530	244
165°	561	579	561	625	561	158
175°	571	570	571	602	571	54
180°	574	574	574	574	574	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	156.3	156.3	156.3	156.3	156.3	156.3	156.3	156.3	156.3	156.3	156.3
2.5°	156.2	157.8	159.3	161.2	163.9	161.2	159.3	157.8	156.2	153.0	151.3
5°	155.6	159.3	162.8	166.2	169.7	166.2	162.8	159.3	155.6	150.3	146.7
7.5°	154.7	160.3	166.0	171.0	175.0	171.0	166.0	160.3	154.7	147.5	141.9
10°	153.4	160.9	168.7	175.1	180.2	175.1	168.7	160.9	153.4	144.2	136.6
12.5°	151.7	161.3	171.0	178.9	184.6	178.9	171.0	161.3	151.7	140.8	131.2
15°	149.6	161.2	172.9	182.5	188.8	182.5	172.9	161.2	149.6	136.9	125.3
17.5°	147.3	160.7	174.5	185.7	192.6	185.7	174.5	160.7	147.3	132.9	119.5
20°	144.6	159.9	175.6	188.3	195.9	188.3	175.6	159.9	144.6	128.5	113.4
22.5°	141.8	158.7	176.4	190.5	198.8	190.5	176.4	158.7	141.8	124.1	107.3
25°	138.5	157.2	176.9	192.1	201.0	192.1	176.9	157.2	138.5	119.3	101.3
27.5°	135.0	155.3	176.9	193.6	203.0	193.6	176.9	155.3	135.0	114.2	94.9
30°	131.4	153.2	176.4	194.4	204.7	194.4	176.4	153.2	131.4	109.4	89.4
32.5°	127.3	150.9	175.8	195.3	205.9	195.3	175.8	150.9	127.3	104.4	83.3
35°	123.3	148.2	174.8	195.5	206.6	195.5	174.8	148.2	123.3	99.1	77.6
37.5°	118.7	145.0	173.1	195.0	206.8	195.0	173.1	145.0	118.7	93.7	71.7
40°	114.3	141.7	171.2	194.4	206.8	194.4	171.2	141.7	114.3	88.7	66.1
42.5°	109.6	137.9	168.9	193.6	206.4	193.6	168.9	137.9	109.6	83.3	60.5
45°	105.0	134.3	166.6	192.1	205.8	192.1	166.6	134.3	105.0	78.2	55.4
47.5°	100.6	130.5	164.1	190.5	204.7	190.5	164.1	130.5	100.6	73.4	50.6
50°	95.6	126.4	160.9	188.2	202.8	188.2	160.9	126.4	95.6	68.3	45.8
52.5°	90.8	122.2	157.6	185.4	200.5	185.4	157.6	122.2	90.8	64.0	41.3
55°	85.8	117.6	153.2	181.9	197.2	181.9	153.2	117.6	85.8	59.2	37.2
57.5°	80.7	112.8	148.8	178.1	193.4	178.1	148.8	112.8	80.7	54.8	33.2
60°	75.7	107.5	144.0	173.3	188.8	173.3	144.0	107.5	75.7	50.2	29.7
62.5°	70.9	102.3	138.9	168.3	184.0	168.3	138.9	102.3	70.9	46.0	26.3
65°	66.0	97.1	133.3	163.0	178.6	163.0	133.3	97.1	66.0	42.0	23.1
67.5°	61.1	91.9	127.9	157.4	172.9	157.4	127.9	91.9	61.1	38.2	20.4
70°	56.5	86.4	122.4	151.7	167.2	151.7	122.4	86.4	56.5	34.5	17.9
72.5°	51.6	80.7	116.0	145.0	160.3	145.0	116.0	80.7	51.6	30.9	15.4
75°	47.2	75.3	109.9	138.1	153.2	138.1	109.9	75.3	47.2	27.5	13.3
77.5°	42.9	69.8	103.2	131.0	145.6	131.0	103.2	69.8	42.9	24.6	11.4
80°	39.0	64.4	97.1	123.8	138.3	123.8	97.1	64.4	39.0	22.1	9.9
82.5°	34.9	59.2	90.1	116.6	130.4	116.6	90.1	59.2	34.9	19.4	8.5
85°	31.4	53.9	83.9	109.0	122.4	109.0	83.9	53.9	31.4	17.1	7.2
87.5°	27.8	48.7	77.4	101.5	114.2	101.5	77.4	48.7	27.8	14.7	6.0
90°	25.0	44.3	71.5	95.2	107.3	95.2	71.5	44.3	25.0	13.5	6.8
92.5°	26.1	50.3	77.4	98.3	106.3	98.3	77.4	50.3	26.1	11.0	5.7
95°	40.4	70.9	95.8	111.5	116.0	111.5	95.8	70.9	40.4	41.2	16.6
97.5°	66.1	102.1	130.5	145.9	147.5	145.9	130.5	102.1	66.1	92.9	42.9
100°	91.8	143.3	180.6	196.8	193.2	196.8	180.6	143.3	91.8	144.8	84.9
102.5°	123.8	179.8	225.8	243.8	240.5	243.8	225.8	179.8	123.8	176.9	127.6
105°	163.7	211.4	267.3	287.8	280.1	287.8	267.3	211.4	163.7	201.1	172.2
107.5°	199.2	234.4	295.0	324.9	310.9	324.9	295.0	234.4	199.2	220.9	217.5
110°	230.4	257.5	318.2	357.0	348.6	357.0	318.2	257.5	230.4	241.2	259.5



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CATALOG NUMBER: 648-CF2/26-120SSB-PB

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	252.4	278.4	338.3	385.6	384.0	385.6	338.3	278.4	252.4	260.7	286.8
115°	271.7	297.5	354.7	407.8	419.8	407.8	354.7	297.5	271.7	280.1	309.2
117.5°	291.4	318.8	370.5	426.7	451.0	426.7	370.5	318.8	291.4	299.2	330.4
120°	309.2	339.7	387.3	442.6	471.9	442.6	387.3	339.7	309.2	315.5	347.7
122.5°	327.5	360.1	404.7	458.3	486.2	458.3	404.7	360.1	327.5	331.0	361.5
125°	345.2	378.1	419.6	468.6	496.6	468.6	419.6	378.1	345.2	347.5	376.5
127.5°	363.8	394.5	431.3	474.8	503.1	474.8	431.3	394.5	363.8	366.3	394.2
130°	381.3	410.6	442.4	480.3	506.7	480.3	442.4	410.6	381.3	382.5	409.3
132.5°	398.4	426.9	454.5	487.0	510.4	487.0	454.5	426.9	398.4	398.2	425.3
135°	414.7	442.8	466.9	494.6	514.5	494.6	466.9	442.8	414.7	413.9	442.4
137.5°	431.1	457.9	481.1	504.8	520.9	504.8	481.1	457.9	431.1	428.9	460.9
140°	447.2	472.9	496.5	518.6	532.5	518.6	496.5	472.9	447.2	444.3	478.9
142.5°	461.8	485.6	508.1	531.8	543.3	531.8	508.1	485.6	461.8	458.7	495.3
145°	476.6	497.2	517.6	542.3	551.7	542.3	517.6	497.2	476.6	474.0	510.9
147.5°	490.9	508.1	525.5	549.6	558.2	549.6	525.5	508.1	490.9	489.1	526.0
150°	505.1	518.8	533.2	556.5	564.0	556.5	533.2	518.8	505.1	504.3	540.6
152.5°	517.6	528.0	540.4	563.0	568.8	563.0	540.4	528.0	517.6	518.4	554.2
155°	529.6	536.6	546.9	568.4	572.4	568.4	546.9	536.6	529.6	531.8	566.2
157.5°	540.0	544.1	551.9	572.6	575.2	572.6	551.9	544.1	540.0	543.5	575.2
160°	548.4	551.3	556.5	575.2	576.8	575.2	556.5	551.3	548.4	554.2	581.6
162.5°	555.4	558.0	560.3	575.2	578.1	575.2	560.3	558.0	555.4	563.6	587.3
165°	560.6	564.3	563.9	574.5	579.3	574.5	563.9	564.3	560.6	570.7	591.7
167.5°	564.6	569.7	568.4	574.3	579.0	574.3	568.4	569.7	564.6	573.9	594.4
170°	567.7	572.2	572.9	576.2	576.4	576.2	572.9	572.2	567.7	574.8	593.8
172.5°	569.8	573.3	572.9	574.9	572.0	574.9	572.9	573.3	569.8	574.3	588.6
175°	571.0	573.5	572.2	573.0	570.1	573.0	572.2	573.5	571.0	573.9	582.7
177.5°	571.5	573.5	572.0	573.9	572.6	573.9	572.0	573.5	571.5	573.5	577.4
180°	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5	574.5



TEST NUMBER: 16791

CATALOG NUMBER: 648-CF2/26-120SSB-PB

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	156.3	156.3	156.3	156.3	156.3	156.3
2.5°	150.3	151.5	150.3	151.3	153.0	156.2
5°	144.2	145.0	144.2	146.7	150.3	155.6
7.5°	138.1	138.1	138.1	141.9	147.5	154.7
10°	131.4	130.8	131.4	136.6	144.2	153.4
12.5°	125.0	123.8	125.0	131.2	140.8	151.7
15°	117.8	116.1	117.8	125.3	136.9	149.6
17.5°	110.9	108.8	110.9	119.5	132.9	147.3
20°	103.8	101.0	103.8	113.4	128.5	144.6
22.5°	96.7	93.9	96.7	107.3	124.1	141.8
25°	90.0	86.8	90.0	101.3	119.3	138.5
27.5°	83.0	79.7	83.0	94.9	114.2	135.0
30°	76.6	72.8	76.6	89.4	109.4	131.4
32.5°	70.2	66.3	70.2	83.3	104.4	127.3
35°	64.2	60.0	64.2	77.6	99.1	123.3
37.5°	57.9	53.7	57.9	71.7	93.7	118.7
40°	52.5	48.1	52.5	66.1	88.7	114.3
42.5°	46.8	42.0	46.8	60.5	83.3	109.6
45°	41.6	36.8	41.6	55.4	78.2	105.0
47.5°	36.8	31.7	36.8	50.6	73.4	100.6
50°	32.0	26.9	32.0	45.8	68.3	95.6
52.5°	27.8	22.7	27.8	41.3	64.0	90.8
55°	23.6	18.8	23.6	37.2	59.2	85.8
57.5°	20.4	15.6	20.4	33.2	54.8	80.7
60°	17.3	12.7	17.3	29.7	50.2	75.7
62.5°	14.7	10.4	14.7	26.3	46.0	70.9
65°	12.3	8.0	12.3	23.1	42.0	66.0
67.5°	10.4	6.4	10.4	20.4	38.2	61.1
70°	8.5	4.7	8.5	17.9	34.5	56.5
72.5°	6.8	3.5	6.8	15.4	30.9	51.6
75°	5.4	2.4	5.4	13.3	27.5	47.2
77.5°	4.3	0.5	4.3	11.4	24.6	42.9
80°	3.2	1.2	3.2	9.9	22.1	39.0
82.5°	2.6	0.5	2.6	8.5	19.4	34.9
85°	0.5	0.5	0.5	7.2	17.1	31.4
87.5°	0.5	0.5	0.5	6.0	14.7	27.8
90°	0.5	0.5	0.5	6.8	13.5	25.0
92.5°	11.7	16.9	11.7	5.7	11.0	26.1
95°	21.3	27.3	21.3	16.6	41.2	40.4
97.5°	43.2	47.0	43.2	42.9	92.9	66.1
100°	70.1	69.0	70.1	84.9	144.8	91.8
102.5°	100.6	93.1	100.6	127.6	176.9	123.8
105°	133.3	122.4	133.3	172.2	201.1	163.7
107.5°	165.4	153.4	165.4	217.5	220.9	199.2
110°	201.0	190.2	201.0	259.5	241.2	230.4



TEST NUMBER: 16791

CATALOG NUMBER: 648-CF2/26-120SSB-PB

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	240.1	225.7	240.1	286.8	260.7	252.4
115°	281.8	266.5	281.8	309.2	280.1	271.7
117.5°	320.5	308.3	320.5	330.4	299.2	291.4
120°	349.2	344.2	349.2	347.7	315.5	309.2
122.5°	374.6	369.9	374.6	361.5	331.0	327.5
125°	398.2	396.7	398.2	376.5	347.5	345.2
127.5°	421.5	428.2	421.5	394.2	366.3	363.8
130°	439.8	459.7	439.8	409.3	382.5	381.3
132.5°	460.4	488.6	460.4	425.3	398.2	398.4
135°	482.6	515.9	482.6	442.4	413.9	414.7
137.5°	503.9	541.8	503.9	460.9	428.9	431.1
140°	523.6	563.6	523.6	478.9	444.3	447.2
142.5°	541.1	580.8	541.1	495.3	458.7	461.8
145°	557.5	594.4	557.5	510.9	474.0	476.6
147.5°	570.6	604.4	570.6	526.0	489.1	490.9
150°	582.9	612.7	582.9	540.6	504.3	505.1
152.5°	593.2	618.7	593.2	554.2	518.4	517.6
155°	602.2	623.6	602.2	566.2	531.8	529.6
157.5°	608.0	626.2	608.0	575.2	543.5	540.0
160°	611.8	627.1	611.8	581.6	554.2	548.4
162.5°	613.3	626.2	613.3	587.3	563.6	555.4
165°	614.1	624.6	614.1	591.7	570.7	560.6
167.5°	614.1	623.3	614.1	594.4	573.9	564.6
170°	611.6	621.9	611.6	593.8	574.8	567.7
172.5°	603.0	614.1	603.0	588.6	574.3	569.8
175°	591.9	601.8	591.9	582.7	573.9	571.0
177.5°	581.2	587.9	581.2	577.4	573.5	571.5
180°	574.5	574.5	574.5	574.5	574.5	574.5

(END OF REPORT)