

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: 18656

Luminaire Tested: **624-CF2/13-BL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 18656
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 624-CF2/13-BL
Description: FLUORESCENT WALL MOUNT LUMINAIRE WITH WHITE INTERIOR AND FLAT WHITE
PLASTIC LENS
Light Source: TWO SYLVANIA 13 WATT CPFL LAMPS

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

Ballast/Driver: -

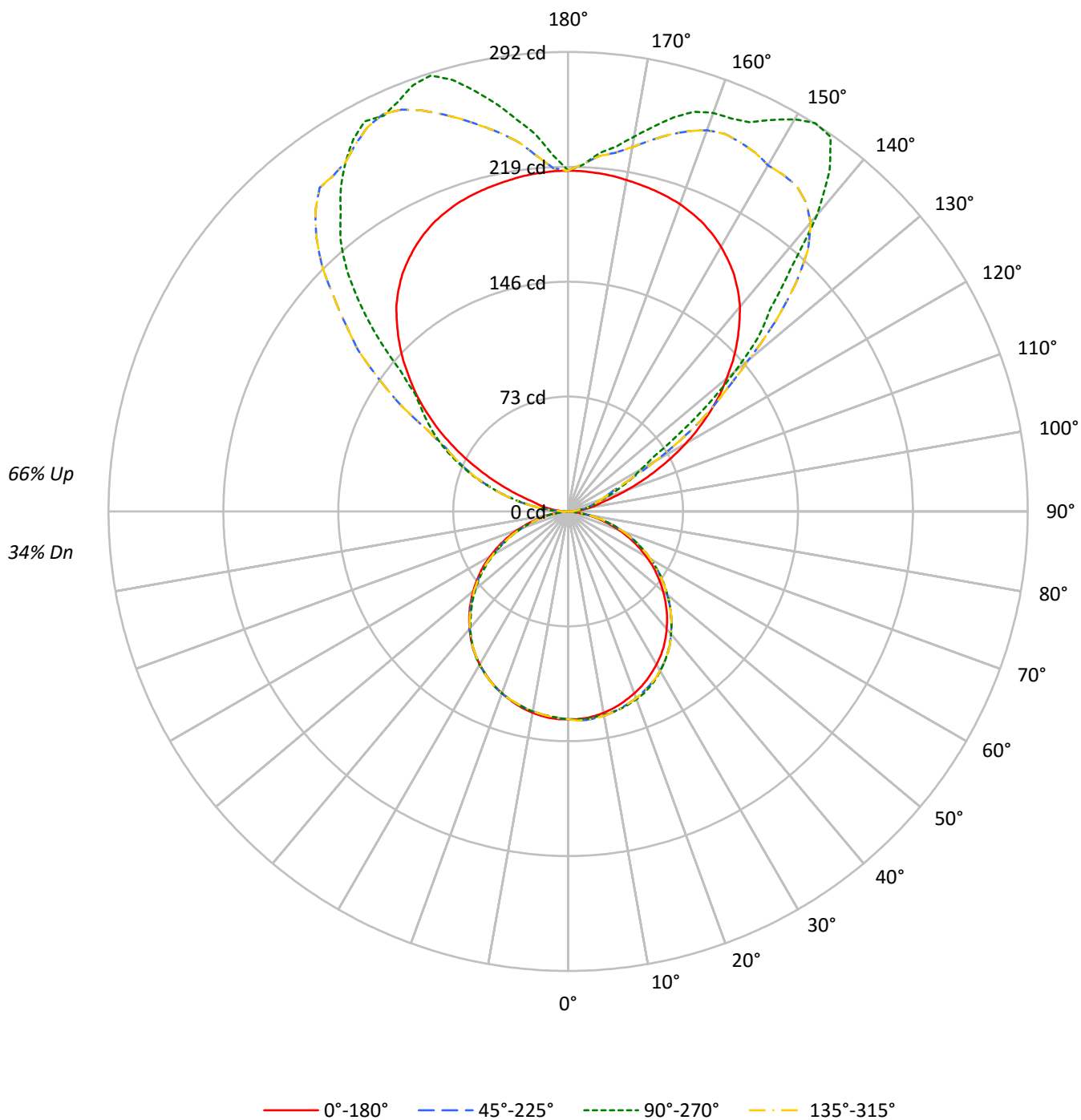
Summary

Lumens per Lamp: 1600 (1 lamp)
Luminaire Lumens: 1092.9 lumens
Efficiency: 68.3%
Efficacy: 52.0 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.29 / 1.39
Luminous Opening: Rectangular (W 0.29' x L: 0.71' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 21
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: 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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	71	71	71	71	64	64	64	64	51	51	51		39	39	39		29
1	64	62	59	57	58	56	53	52	45	43	42		35	34	33		25
2	59	54	50	46	53	49	45	42	39	37	34		30	29	27		22
3	53	47	42	38	48	43	38	35	34	31	29		27	25	23		20
4	49	42	36	32	44	38	33	30	30	27	25		24	21	20		17
5	45	37	31	27	40	34	29	25	27	24	21		21	19	17		16
6	41	33	28	24	37	30	25	22	24	21	18		19	17	15		14
7	38	30	24	21	34	27	22	19	22	19	16		17	15	13		13
8	35	27	22	18	32	24	20	17	20	17	14		16	13	11		12
9	33	24	19	16	29	22	18	15	18	15	13		14	12	10		11
10	30	22	18	14	27	20	16	13	17	13	11		13	11	9		10

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	6901	6901	6901	6901
5°	6916	6943	6916	6854
10°	6896	6970	6896	6853
15°	6868	7014	6868	6846
20°	6843	7065	6843	6837
25°	6818	7089	6818	6824
30°	6779	7069	6779	6797
35°	6739	7026	6739	6727
40°	6647	6940	6647	6599
45°	6543	6831	6543	6417
50°	6392	6685	6392	6238
55°	6234	6553	6234	6025
60°	5981	6305	5981	5698
65°	5665	6061	5665	5319
70°	5243	5701	5243	4799
75°	4545	4989	4545	4120
80°	3492	3823	3492	3251
85°	1799	2159	1799	2519

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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	12.5	1.1	0.8
10°-20°	36.0	3.3	2.3
20°-30°	55.1	5.0	3.4
30°-40°	66.9	6.1	4.2
40°-50°	68.9	6.3	4.3
50°-60°	61.5	5.6	3.8
60°-70°	45.5	4.2	2.8
70°-80°	24.0	2.2	1.5
80°-90°	4.8	0.4	0.3
90°-100°	8.8	0.8	0.5
100°-110°	30.5	2.8	1.9
110°-120°	62.1	5.7	3.9
120°-130°	107.4	9.8	6.7
130°-140°	147.0	13.5	9.2
140°-150°	152.3	13.9	9.5
150°-160°	117.6	10.8	7.3
160°-170°	70.2	6.4	4.4
170°-180°	21.8	2.0	1.4
0°-30°	103.6	9.5	6.5
0°-40°	170.5	15.6	10.7
0°-60°	300.9	27.5	18.8
0°-90°	375.2	34.3	23.4
90°-120°	101.4	9.3	6.3
90°-150°	508.2	46.5	31.8
90°-180°	718.0	65.7	44.9
0°-180°	1092.9	100.0	68.3

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	132	132	132	132	132	
5°	132	132	132	131	132	13
15°	127	130	127	126	127	36
25°	118	123	118	118	118	54
35°	106	110	106	105	106	66
45°	88	92	88	87	88	68
55°	68	72	68	66	68	61
65°	46	49	46	43	46	45
75°	22	25	22	20	22	24
85°	3	4	3	4	3	4
90°	0	0	0	0	0	1
95°	6	4	6	12	6	7
105°	22	18	22	44	22	26
115°	62	38	62	80	62	62
125°	110	86	110	114	110	98
135°	152	181	152	187	152	117
145°	184	291	184	252	184	115
155°	202	273	202	277	202	93
165°	211	259	211	284	211	60
175°	216	229	216	241	216	21
180°	216	216	216	216	216	

TEST NUMBER: 18656

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0	132.0
2.5°	132.2	131.3	133.0	132.5	132.1	132.5	133.0	131.3	132.2	131.1	131.6
5°	131.8	131.1	133.0	132.5	132.3	132.5	133.0	131.1	131.8	130.3	130.8
7.5°	131.0	130.6	132.5	132.3	131.8	132.3	132.5	130.6	131.0	129.4	129.9
10°	129.9	129.9	131.8	131.6	131.3	131.6	131.8	129.9	129.9	128.4	128.9
12.5°	128.6	128.6	130.8	130.6	130.6	130.6	130.8	128.6	128.6	127.0	127.7
15°	126.9	127.2	129.4	129.6	129.6	129.6	129.4	127.2	126.9	125.3	126.3
17.5°	125.0	125.6	127.9	128.4	128.4	128.4	127.9	125.6	125.0	123.6	124.8
20°	123.0	123.6	126.3	127.0	127.0	127.0	126.3	123.6	123.0	121.4	123.1
22.5°	120.7	121.4	124.3	125.1	125.3	125.1	124.3	121.4	120.7	119.3	120.9
25°	118.2	119.3	122.1	122.9	122.9	122.9	122.1	119.3	118.2	116.6	118.3
27.5°	115.3	116.4	119.8	120.3	120.3	120.3	119.8	116.4	115.3	113.9	115.4
30°	112.3	113.5	116.9	117.4	117.1	117.4	116.9	113.5	112.3	110.9	112.3
32.5°	109.1	110.6	113.7	113.7	113.7	113.7	113.7	110.6	109.1	107.7	108.9
35°	105.6	107.4	110.1	110.1	110.1	110.1	110.1	107.4	105.6	104.1	105.4
37.5°	101.6	103.9	106.3	106.1	106.1	106.1	106.3	103.9	101.6	100.0	101.2
40°	97.4	99.7	101.7	101.7	101.7	101.7	101.7	99.7	97.4	95.7	97.2
42.5°	93.0	95.4	97.2	96.9	97.2	96.9	97.2	95.4	93.0	90.9	92.6
45°	88.5	90.9	92.4	92.1	92.4	92.1	92.4	90.9	88.5	86.3	87.7
47.5°	83.7	86.3	87.5	87.2	87.5	87.2	87.5	86.3	83.7	81.5	82.9
50°	78.6	81.2	82.0	82.5	82.2	82.5	82.0	81.2	78.6	76.5	77.7
52.5°	73.7	76.2	76.9	77.4	77.2	77.4	76.9	76.2	73.7	71.2	72.4
55°	68.4	70.9	71.7	71.7	71.9	71.7	71.7	70.9	68.4	65.6	66.8
57.5°	63.1	65.6	66.1	66.3	66.3	66.3	66.1	65.6	63.1	60.1	61.3
60°	57.2	59.6	60.3	60.5	60.3	60.5	60.3	59.6	57.2	54.3	55.3
62.5°	51.7	54.0	54.5	54.8	54.8	54.8	54.5	54.0	51.7	48.8	49.5
65°	45.8	48.3	48.8	48.8	49.0	48.8	48.8	48.3	45.8	43.0	43.5
67.5°	40.0	42.8	43.0	43.0	43.3	43.0	43.0	42.8	40.0	37.3	37.7
70°	34.3	37.0	37.3	37.3	37.3	37.3	37.3	37.0	34.3	31.4	31.9
72.5°	28.2	31.0	31.3	31.0	31.0	31.0	31.3	31.0	28.2	25.4	26.1
75°	22.5	25.2	25.2	24.9	24.7	24.9	25.2	25.2	22.5	19.9	20.6
77.5°	16.8	19.1	18.7	18.7	18.4	18.7	18.7	19.1	16.8	14.4	15.1
80°	11.6	13.6	13.1	12.7	12.7	12.7	13.1	13.6	11.6	9.8	10.6
82.5°	6.7	8.4	7.9	7.6	7.4	7.6	7.9	8.4	6.7	5.4	6.4
85°	3.0	4.0	3.6	3.6	3.6	3.6	3.6	4.0	3.0	2.4	3.6
87.5°	0.8	0.9	0.7	0.7	0.7	0.7	0.7	0.9	0.8	0.5	1.4
90°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
92.5°	2.5	0.9	0.7	0.5	0.5	0.5	0.7	0.9	2.5	4.7	5.7
95°	6.5	4.2	4.0	4.0	3.6	4.0	4.0	4.2	6.5	10.3	11.9
97.5°	10.4	7.1	7.1	7.6	7.4	7.6	7.1	7.1	10.4	16.3	18.9
100°	14.4	10.3	10.6	10.9	11.2	10.9	10.6	10.3	14.4	23.1	26.9
102.5°	18.2	12.7	13.4	14.1	14.4	14.1	13.4	12.7	18.2	29.5	35.3
105°	22.2	15.3	16.1	17.1	17.5	17.1	16.1	15.3	22.2	37.0	44.0
107.5°	29.5	18.4	19.1	19.9	19.9	19.9	19.1	18.4	29.5	46.6	52.3
110°	39.8	23.1	22.8	24.3	24.9	24.3	22.8	23.1	39.8	62.7	61.5

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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°	50.4	32.1	27.1	29.3	30.8	29.3	27.1	32.1	50.4	80.0	70.0
115°	61.8	46.3	32.4	35.1	37.7	35.1	32.4	46.3	61.8	98.1	78.7
117.5°	74.2	62.3	45.1	41.6	45.8	41.6	45.1	62.3	74.2	118.6	87.5
120°	86.1	78.2	63.2	48.5	53.3	48.5	63.2	78.2	86.1	139.5	102.7
122.5°	98.2	96.7	85.1	66.1	63.7	66.1	85.1	96.7	98.2	158.5	126.8
125°	109.7	116.4	106.6	90.2	85.9	90.2	106.6	116.4	109.7	174.7	146.5
127.5°	121.1	135.4	126.0	115.6	112.6	115.6	126.0	135.4	121.1	185.4	167.9
130°	131.4	150.8	149.3	140.3	138.3	140.3	149.3	150.8	131.4	192.7	184.0
132.5°	142.0	163.5	178.5	159.7	163.8	159.7	178.5	163.5	142.0	200.9	202.1
135°	151.7	174.2	204.2	180.4	181.4	180.4	204.2	174.2	151.7	209.7	221.3
137.5°	160.9	186.9	225.6	214.3	209.3	214.3	225.6	186.9	160.9	218.2	236.9
140°	169.8	200.1	239.6	246.8	245.8	246.8	239.6	200.1	169.8	225.4	249.7
142.5°	177.1	211.2	248.0	270.9	272.8	270.9	248.0	211.2	177.1	230.4	259.3
145°	183.8	221.1	252.8	282.7	290.6	282.7	252.8	221.1	183.8	233.8	260.3
147.5°	189.2	227.1	253.8	282.4	292.5	282.4	253.8	227.1	189.2	236.0	263.2
150°	194.3	230.6	254.0	277.8	287.7	277.8	254.0	230.6	194.3	237.4	269.7
152.5°	198.6	232.8	257.2	271.8	280.5	271.8	257.2	232.8	198.6	238.1	275.5
155°	202.3	234.3	258.8	266.3	272.8	266.3	258.8	234.3	202.3	238.1	278.5
157.5°	205.3	234.8	259.8	266.5	270.4	266.5	259.8	234.8	205.3	237.1	276.4
160°	207.8	234.1	257.8	264.8	269.5	264.8	257.8	234.1	207.8	236.0	271.1
162.5°	209.7	232.6	253.3	261.7	266.3	261.7	253.3	232.6	209.7	234.3	264.6
165°	211.3	230.4	247.8	254.5	259.3	254.5	247.8	230.4	211.3	232.4	257.8
167.5°	212.6	227.8	241.5	246.1	250.4	246.1	241.5	227.8	212.6	229.3	250.6
170°	213.9	225.9	235.0	237.6	241.8	237.6	235.0	225.9	213.9	225.4	243.9
172.5°	215.1	224.4	229.9	230.6	233.8	230.6	229.9	224.4	215.1	221.3	236.3
175°	215.8	221.8	226.6	225.9	228.6	225.9	226.6	221.8	215.8	217.7	226.6
177.5°	216.4	218.6	221.1	219.1	220.6	219.1	221.1	218.6	216.4	215.8	218.4
180°	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5	216.5

TEST NUMBER: 18656

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	132.0	132.0	132.0	132.0	132.0	132.0
2.5°	131.8	131.3	131.8	131.6	131.1	132.2
5°	131.1	130.6	131.1	130.8	130.3	131.8
7.5°	130.3	130.1	130.3	129.9	129.4	131.0
10°	129.4	129.1	129.4	128.9	128.4	129.9
12.5°	128.1	127.9	128.1	127.7	127.0	128.6
15°	126.8	126.5	126.8	126.3	125.3	126.9
17.5°	125.3	124.8	125.3	124.8	123.6	125.0
20°	123.1	122.9	123.1	123.1	121.4	123.0
22.5°	120.9	120.7	120.9	120.9	119.3	120.7
25°	118.3	118.3	118.3	118.3	116.6	118.2
27.5°	115.6	115.4	115.6	115.4	113.9	115.3
30°	112.8	112.6	112.8	112.3	110.9	112.3
32.5°	109.4	109.2	109.4	108.9	107.7	109.1
35°	105.8	105.4	105.8	105.4	104.1	105.6
37.5°	101.4	101.2	101.4	101.2	100.0	101.6
40°	97.2	96.7	97.2	97.2	95.7	97.4
42.5°	92.4	91.6	92.4	92.6	90.9	93.0
45°	87.2	86.8	87.2	87.7	86.3	88.5
47.5°	82.5	82.0	82.5	82.9	81.5	83.7
50°	77.2	76.7	77.2	77.7	76.5	78.6
52.5°	72.2	71.7	72.2	72.4	71.2	73.7
55°	66.5	66.1	66.5	66.8	65.6	68.4
57.5°	61.0	60.5	61.0	61.3	60.1	63.1
60°	55.3	54.5	55.3	55.3	54.3	57.2
62.5°	49.5	48.8	49.5	49.5	48.8	51.7
65°	43.5	43.0	43.5	43.5	43.0	45.8
67.5°	37.7	37.3	37.7	37.7	37.3	40.0
70°	31.9	31.4	31.9	31.9	31.4	34.3
72.5°	26.1	25.6	26.1	26.1	25.4	28.2
75°	20.6	20.4	20.6	20.6	19.9	22.5
77.5°	15.3	15.3	15.3	15.1	14.4	16.8
80°	10.8	10.8	10.8	10.6	9.8	11.6
82.5°	7.1	6.9	7.1	6.4	5.4	6.7
85°	4.2	4.2	4.2	3.6	2.4	3.0
87.5°	1.6	1.4	1.6	1.4	0.5	0.8
90°	0.5	0.5	0.5	0.5	0.5	0.5
92.5°	6.2	6.7	6.2	5.7	4.7	2.5
95°	12.2	12.4	12.2	11.9	10.3	6.5
97.5°	18.9	19.1	18.9	18.9	16.3	10.4
100°	27.1	26.9	27.1	26.9	23.1	14.4
102.5°	35.1	34.8	35.1	35.3	29.5	18.2
105°	44.2	43.8	44.2	44.0	37.0	22.2
107.5°	53.1	52.6	53.1	52.3	46.6	29.5
110°	63.0	62.0	63.0	61.5	62.7	39.8

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CATALOG NUMBER: 624-CF2/13-BL

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	72.2	71.4	72.2	70.0	80.0	50.4
115°	81.5	80.5	81.5	78.7	98.1	61.8
117.5°	91.1	89.7	91.1	87.5	118.6	74.2
120°	99.3	97.9	99.3	102.7	139.5	86.1
122.5°	107.2	106.1	107.2	126.8	158.5	98.2
125°	115.6	113.7	115.6	146.5	174.7	109.7
127.5°	132.8	122.4	132.8	167.9	185.4	121.1
130°	157.3	138.8	157.3	184.0	192.7	131.4
132.5°	179.4	164.5	179.4	202.1	200.9	142.0
135°	200.6	187.4	200.6	221.3	209.7	151.7
137.5°	216.2	208.1	216.2	236.9	218.2	160.9
140°	230.6	224.9	230.6	249.7	225.4	169.8
142.5°	247.0	237.4	247.0	259.3	230.4	177.1
145°	260.5	251.8	260.5	260.3	233.8	183.8
147.5°	270.7	263.2	270.7	263.2	236.0	189.2
150°	277.7	273.0	277.7	269.7	237.4	194.3
152.5°	275.5	279.5	275.5	275.5	238.1	198.6
155°	278.3	277.4	278.3	278.5	238.1	202.3
157.5°	283.7	282.0	283.7	276.4	237.1	205.3
160°	286.2	288.2	286.2	271.1	236.0	207.8
162.5°	282.2	290.4	282.2	264.6	234.3	209.7
165°	273.0	283.9	273.0	257.8	232.4	211.3
167.5°	263.2	273.7	263.2	250.6	229.3	212.6
170°	253.1	263.0	253.1	243.9	225.4	213.9
172.5°	242.8	251.3	242.8	236.3	221.3	215.1
175°	231.9	240.8	231.9	226.6	217.7	215.8
177.5°	219.1	226.8	219.1	218.4	215.8	216.4
180°	216.5	216.5	216.5	216.5	216.5	216.5

(END OF REPORT)