

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: 25491

Luminaire Tested: **104-CFL/2/18-120V-SWH**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 25491
Test Lab: LIGHTING SCIENCES, INC.
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 104-CFL/2/18-120V-SWH
Description: WHITE FABRIC SHADE SQUARE WALL SCONCE

Light Source: TWO SYLVANIA 18 WATT CFL LAMPS

CF18DD/E/830/ECO. LUMEN RATING = 2300 LMS.

Ballast/Driver: -

Summary

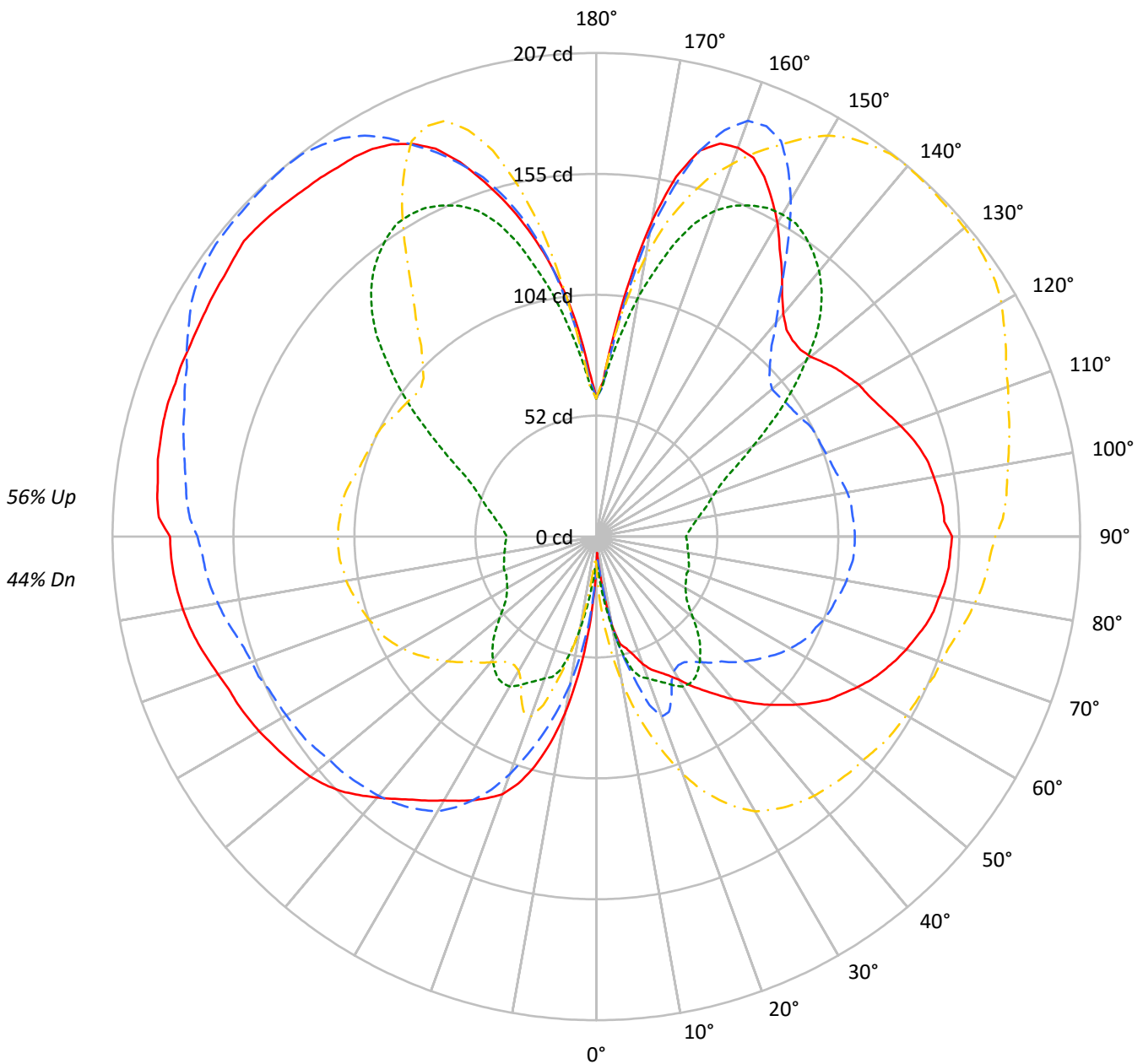
Lumens per Lamp: 2300 (1 lamp)
Luminaire Lumens: 1599.7 lumens
Efficiency: 69.6%
Efficacy: 48.5 lumens/watt
Spacing Criteria (0/90/45): 5.59 / 3.35 / 4.76
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 1')
CIE Type: General Diffuse

Input Watts (W): 33
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	73	73	73	73	67	67	67	67	56	56	56	45	45	45	35	35	35	30
1	64	60	56	52	58	54	51	48	44	42	39	35	33	31	26	25	24	19
2	57	51	45	41	52	46	41	37	37	33	30	29	26	24	21	19	18	14
3	51	44	37	32	46	39	34	30	32	28	24	25	22	19	18	16	14	11
4	47	38	32	27	42	34	29	24	28	23	20	21	18	15	16	13	11	8
5	43	33	27	22	38	30	25	20	24	20	17	19	16	13	14	11	9	7
6	39	30	23	19	35	27	21	17	22	17	14	17	13	11	12	10	8	6
7	36	26	20	16	32	24	19	15	19	15	12	15	12	9	11	9	7	5
8	33	24	18	14	30	22	16	13	18	13	10	14	10	8	10	8	6	4
9	31	22	16	12	28	20	15	11	16	12	9	13	9	7	9	7	5	3
10	29	20	14	11	26	18	13	10	15	11	8	11	8	6	8	6	4	3

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	391	391	391	391
5°	406	528	1286	528
10°	1092	866	2157	866
15°	1321	1100	2711	1100
20°	1476	1066	2985	1066
25°	1573	1029	3056	1029
30°	1691	1015	3114	1015
35°	1883	940	3218	940
40°	2107	828	3376	828
45°	2343	714	3557	714
50°	2591	593	3700	593
55°	2846	504	3822	504
60°	3078	459	3978	459
65°	3328	436	4158	436
70°	3591	430	4382	430
75°	3886	419	4698	419
80°	4192	413	5057	413
85°	4555	412	5468	412



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	3.2	0.2	0.1
10°-20°	20.5	1.3	0.9
20°-30°	43.3	2.7	1.9
30°-40°	63.5	4.0	2.8
40°-50°	82.3	5.1	3.6
50°-60°	100.4	6.3	4.4
60°-70°	116.6	7.3	5.1
70°-80°	129.8	8.1	5.6
80°-90°	138.5	8.7	6.0
90°-100°	141.6	8.8	6.2
100°-110°	139.9	8.7	6.1
110°-120°	134.3	8.4	5.8
120°-130°	127.5	8.0	5.5
130°-140°	118.5	7.4	5.2
140°-150°	105.8	6.6	4.6
150°-160°	81.5	5.1	3.5
160°-170°	43.3	2.7	1.9
170°-180°	9.2	0.6	0.4
0°-30°	67.0	4.2	2.9
0°-40°	130.5	8.2	5.7
0°-60°	313.1	19.6	13.6
0°-90°	698.1	43.6	30.4
90°-120°	415.8	26.0	18.1
90°-150°	767.6	48.0	33.4
90°-180°	902.0	56.4	39.2
0°-180°	1599.7	100.0	69.6

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	12	12	12	12	12	
5°	14	20	43	20	14	2
15°	50	59	102	59	50	14
25°	64	69	124	69	64	30
35°	80	74	137	74	80	51
45°	102	62	154	62	102	79
55°	122	47	163	47	122	109
65°	136	42	169	42	136	135
75°	146	41	176	41	146	154
85°	151	39	182	39	151	123
90°	152	38	182	38	152	83
95°	149	40	189	40	149	121
105°	144	48	192	48	144	152
115°	133	62	192	62	133	133
125°	125	97	194	97	125	112
135°	119	136	196	136	119	93
145°	138	156	193	156	138	87
155°	170	156	185	156	170	78
165°	171	130	147	130	171	48
175°	87	78	89	78	87	10
180°	59	59	59	59	59	



TEST NUMBER: 25491

CATALOG NUMBER: 104-CFL/2/18-120V-SWH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
2.5°	6.9	8.9	8.8	9.6	13.7	20.2	23.9	27.4	25.4	27.4	23.9
5°	13.5	14.5	13.8	14.0	20.4	30.0	37.0	43.3	42.7	43.3	37.0
7.5°	24.5	25.1	23.5	23.1	29.8	40.5	50.3	58.3	59.9	58.3	50.3
10°	38.8	39.9	38.6	35.4	40.1	53.2	63.8	73.7	76.6	73.7	63.8
12.5°	47.1	53.0	51.5	47.8	50.5	65.9	75.6	87.7	90.3	87.7	75.6
15°	49.6	60.2	63.1	56.8	59.0	76.9	87.1	98.5	101.8	98.5	87.1
17.5°	53.2	62.8	75.6	64.3	63.0	86.5	97.6	106.4	110.8	106.4	97.6
20°	58.0	63.2	82.0	74.2	64.6	96.3	108.1	113.5	117.3	113.5	108.1
22.5°	61.7	64.0	81.2	83.8	66.7	102.0	117.2	118.4	121.1	118.4	117.2
25°	64.1	64.6	76.1	91.0	69.0	107.1	124.3	121.7	124.5	121.7	124.3
27.5°	67.0	66.0	69.6	97.9	71.8	111.6	130.7	125.0	127.5	125.0	130.7
30°	70.8	68.6	66.4	98.1	74.1	114.8	135.8	127.9	130.4	127.9	135.8
32.5°	75.8	72.0	65.2	92.0	74.5	119.1	138.7	131.2	134.0	131.2	138.7
35°	80.4	76.9	65.6	83.8	73.7	123.1	141.3	135.3	137.4	135.3	141.3
37.5°	85.4	81.4	67.5	75.7	71.6	126.2	143.2	139.1	141.5	139.1	143.2
40°	91.0	85.7	70.2	68.2	68.9	128.1	144.9	142.1	145.8	142.1	144.9
42.5°	96.3	90.4	73.2	63.4	65.8	129.5	146.0	146.0	150.1	146.0	146.0
45°	101.6	95.1	75.6	60.8	62.4	130.4	147.2	149.5	154.2	149.5	147.2
47.5°	106.6	100.0	79.6	61.6	58.1	129.9	148.3	151.9	157.3	151.9	148.3
50°	111.9	104.8	83.0	62.1	53.9	129.9	148.9	153.9	159.8	153.9	148.9
52.5°	116.8	109.2	86.4	62.6	50.1	130.8	150.2	155.2	161.6	155.2	150.2
55°	121.5	113.4	89.6	63.4	47.2	131.2	151.7	155.8	163.2	155.8	151.7
57.5°	125.0	117.4	93.0	65.3	45.4	131.4	152.3	156.0	164.8	156.0	152.3
60°	128.9	120.3	95.7	66.8	44.0	132.4	153.1	156.6	166.6	156.6	153.1
62.5°	132.6	123.8	98.3	67.6	43.1	133.3	153.9	158.3	168.0	158.3	153.9
65°	135.6	126.6	100.6	69.0	42.4	134.6	154.6	159.3	169.4	159.3	154.6
67.5°	138.5	128.6	101.6	70.2	41.7	136.9	156.4	160.1	170.3	160.1	156.4
70°	141.1	131.5	103.6	71.2	42.0	137.7	156.9	161.9	172.2	161.9	156.9
72.5°	143.4	133.7	105.0	71.8	41.5	139.3	158.1	163.5	174.3	163.5	158.1
75°	145.9	135.7	105.9	71.9	40.9	140.8	160.1	164.9	176.4	164.9	160.1
77.5°	147.8	137.5	107.5	72.1	40.4	142.3	162.5	166.8	178.2	166.8	162.5
80°	148.9	138.7	108.7	72.9	40.0	144.3	164.4	168.2	179.6	168.2	164.4
82.5°	150.3	140.1	109.2	73.1	39.4	146.5	166.4	169.5	180.7	169.5	166.4
85°	151.3	140.8	110.3	73.3	39.2	148.3	167.8	170.8	181.6	170.8	167.8
87.5°	151.6	141.0	110.5	73.4	38.8	150.5	168.8	171.5	182.2	171.5	168.8
90°	152.2	141.6	110.6	73.1	38.3	153.5	170.7	171.9	182.4	171.9	170.7
92.5°	149.0	139.7	110.4	74.3	39.3	155.5	174.0	171.0	187.4	171.0	174.0
95°	148.8	139.2	109.9	74.3	40.5	158.1	175.9	171.9	188.6	171.9	175.9
97.5°	147.7	138.0	109.9	74.1	42.0	159.9	177.2	173.4	189.2	173.4	177.2
100°	146.6	137.2	109.0	74.4	43.9	162.7	178.8	174.5	190.5	174.5	178.8
102.5°	145.6	136.0	107.7	73.7	45.9	165.7	180.8	175.1	191.0	175.1	180.8
105°	143.7	134.1	106.1	74.7	48.5	168.1	182.9	176.0	191.7	176.0	182.9
107.5°	141.3	132.4	105.2	75.0	50.9	171.3	184.8	176.8	192.0	176.8	184.8
110°	138.5	129.8	104.5	76.0	53.8	173.5	187.4	177.6	191.7	177.6	187.4



TEST NUMBER: 25491

CATALOG NUMBER: 104-CFL/2/18-120V-SWH

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	135.7	127.3	103.8	76.0	57.2	174.8	189.6	179.1	192.2	179.1	189.6
115°	133.2	125.3	103.7	76.7	62.2	176.2	193.3	180.4	192.1	180.4	193.3
117.5°	131.1	124.4	102.9	76.5	69.2	178.8	196.5	182.2	192.5	182.2	196.5
120°	129.8	122.4	101.2	76.0	77.4	181.3	200.1	184.8	193.1	184.8	200.1
122.5°	127.5	120.8	100.1	78.7	86.7	183.2	202.6	186.4	193.9	186.4	202.6
125°	125.3	118.4	99.4	83.5	97.2	186.0	204.1	188.9	194.4	188.9	204.1
127.5°	122.5	116.7	98.5	89.8	107.4	188.0	205.4	190.7	195.5	190.7	205.4
130°	119.7	115.4	98.1	97.7	117.1	190.7	205.6	190.9	196.8	190.9	205.6
132.5°	118.4	114.2	100.3	107.3	127.6	192.8	205.8	191.4	196.4	191.4	205.8
135°	118.7	114.9	105.0	117.0	135.8	195.4	206.2	191.8	195.8	191.8	206.2
137.5°	120.3	117.6	111.0	128.4	142.7	196.4	206.6	192.2	194.9	192.2	206.6
140°	124.4	122.5	119.6	139.8	148.3	197.2	206.9	191.6	194.1	191.6	206.9
142.5°	130.5	128.5	128.5	150.8	152.7	196.7	206.5	192.4	193.7	192.4	206.5
145°	138.3	136.4	140.1	160.4	156.3	195.7	204.7	192.3	192.9	192.3	204.7
147.5°	146.0	146.1	153.3	167.8	158.9	194.5	202.2	192.5	192.6	192.5	202.2
150°	155.0	155.2	166.4	171.5	159.2	191.6	198.2	191.9	191.6	191.9	198.2
152.5°	162.7	165.6	177.7	172.8	158.6	187.8	192.2	189.7	189.3	189.7	192.2
155°	170.0	174.6	186.8	171.1	156.4	181.1	184.8	185.6	185.4	185.6	184.8
157.5°	175.5	181.9	190.1	167.8	153.3	173.7	177.9	180.6	179.7	180.6	177.9
160°	177.1	185.2	189.4	162.7	148.5	164.2	169.7	172.5	170.6	172.5	169.7
162.5°	176.4	183.1	182.4	154.6	140.8	153.9	161.3	162.7	159.1	162.7	161.3
165°	171.1	175.1	171.1	144.6	130.2	141.9	149.9	152.2	147.4	152.2	149.9
167.5°	157.8	159.0	153.4	130.2	117.1	127.5	137.2	139.5	134.6	139.5	137.2
170°	137.2	136.9	132.4	114.7	104.4	112.6	121.6	125.3	120.7	125.3	121.6
172.5°	111.7	111.0	107.1	96.3	90.4	95.5	103.3	107.6	106.0	107.6	103.3
175°	87.0	85.1	82.9	79.6	77.5	79.8	84.9	88.9	89.2	88.9	84.9
177.5°	66.4	64.9	64.4	64.9	65.2	65.6	67.4	69.5	70.9	69.5	67.4
180°	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1



TEST NUMBER: 25491

CATALOG NUMBER: 104-CFL/2/18-120V-SWH

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	12.0	12.0	12.0	12.0	12.0	12.0
2.5°	20.2	13.7	9.6	8.8	8.9	6.9
5°	30.0	20.4	14.0	13.8	14.5	13.5
7.5°	40.5	29.8	23.1	23.5	25.1	24.5
10°	53.2	40.1	35.4	38.6	39.9	38.8
12.5°	65.9	50.5	47.8	51.5	53.0	47.1
15°	76.9	59.0	56.8	63.1	60.2	49.6
17.5°	86.5	63.0	64.3	75.6	62.8	53.2
20°	96.3	64.6	74.2	82.0	63.2	58.0
22.5°	102.0	66.7	83.8	81.2	64.0	61.7
25°	107.1	69.0	91.0	76.1	64.6	64.1
27.5°	111.6	71.8	97.9	69.6	66.0	67.0
30°	114.8	74.1	98.1	66.4	68.6	70.8
32.5°	119.1	74.5	92.0	65.2	72.0	75.8
35°	123.1	73.7	83.8	65.6	76.9	80.4
37.5°	126.2	71.6	75.7	67.5	81.4	85.4
40°	128.1	68.9	68.2	70.2	85.7	91.0
42.5°	129.5	65.8	63.4	73.2	90.4	96.3
45°	130.4	62.4	60.8	75.6	95.1	101.6
47.5°	129.9	58.1	61.6	79.6	100.0	106.6
50°	129.9	53.9	62.1	83.0	104.8	111.9
52.5°	130.8	50.1	62.6	86.4	109.2	116.8
55°	131.2	47.2	63.4	89.6	113.4	121.5
57.5°	131.4	45.4	65.3	93.0	117.4	125.0
60°	132.4	44.0	66.8	95.7	120.3	128.9
62.5°	133.3	43.1	67.6	98.3	123.8	132.6
65°	134.6	42.4	69.0	100.6	126.6	135.6
67.5°	136.9	41.7	70.2	101.6	128.6	138.5
70°	137.7	42.0	71.2	103.6	131.5	141.1
72.5°	139.3	41.5	71.8	105.0	133.7	143.4
75°	140.8	40.9	71.9	105.9	135.7	145.9
77.5°	142.3	40.4	72.1	107.5	137.5	147.8
80°	144.3	40.0	72.9	108.7	138.7	148.9
82.5°	146.5	39.4	73.1	109.2	140.1	150.3
85°	148.3	39.2	73.3	110.3	140.8	151.3
87.5°	150.5	38.8	73.4	110.5	141.0	151.6
90°	153.5	38.3	73.1	110.6	141.6	152.2
92.5°	155.5	39.3	74.3	110.4	139.7	149.0
95°	158.1	40.5	74.3	109.9	139.2	148.8
97.5°	159.9	42.0	74.1	109.9	138.0	147.7
100°	162.7	43.9	74.4	109.0	137.2	146.6
102.5°	165.7	45.9	73.7	107.7	136.0	145.6
105°	168.1	48.5	74.7	106.1	134.1	143.7
107.5°	171.3	50.9	75.0	105.2	132.4	141.3
110°	173.5	53.8	76.0	104.5	129.8	138.5



TEST NUMBER: 25491

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	174.8	57.2	76.0	103.8	127.3	135.7
115°	176.2	62.2	76.7	103.7	125.3	133.2
117.5°	178.8	69.2	76.5	102.9	124.4	131.1
120°	181.3	77.4	76.0	101.2	122.4	129.8
122.5°	183.2	86.7	78.7	100.1	120.8	127.5
125°	186.0	97.2	83.5	99.4	118.4	125.3
127.5°	188.0	107.4	89.8	98.5	116.7	122.5
130°	190.7	117.1	97.7	98.1	115.4	119.7
132.5°	192.8	127.6	107.3	100.3	114.2	118.4
135°	195.4	135.8	117.0	105.0	114.9	118.7
137.5°	196.4	142.7	128.4	111.0	117.6	120.3
140°	197.2	148.3	139.8	119.6	122.5	124.4
142.5°	196.7	152.7	150.8	128.5	128.5	130.5
145°	195.7	156.3	160.4	140.1	136.4	138.3
147.5°	194.5	158.9	167.8	153.3	146.1	146.0
150°	191.6	159.2	171.5	166.4	155.2	155.0
152.5°	187.8	158.6	172.8	177.7	165.6	162.7
155°	181.1	156.4	171.1	186.8	174.6	170.0
157.5°	173.7	153.3	167.8	190.1	181.9	175.5
160°	164.2	148.5	162.7	189.4	185.2	177.1
162.5°	153.9	140.8	154.6	182.4	183.1	176.4
165°	141.9	130.2	144.6	171.1	175.1	171.1
167.5°	127.5	117.1	130.2	153.4	159.0	157.8
170°	112.6	104.4	114.7	132.4	136.9	137.2
172.5°	95.5	90.4	96.3	107.1	111.0	111.7
175°	79.8	77.5	79.6	82.9	85.1	87.0
177.5°	65.6	65.2	64.9	64.4	64.9	66.4
180°	59.1	59.1	59.1	59.1	59.1	59.1

(END OF REPORT)