

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: 25488

Luminaire Tested: **104-CFL/2/13-120V-SWH**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 25488
Test Lab: LIGHTING SCIENCES, INC.
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 104-CFL/2/13-120V-SWH
Description: WHITE FABRIC SHADE SQUARE WALL SCONCE

Light Source: TWO SYLVANIA 13 WATT CFL LAMPS

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

Ballast/Driver: -

Summary

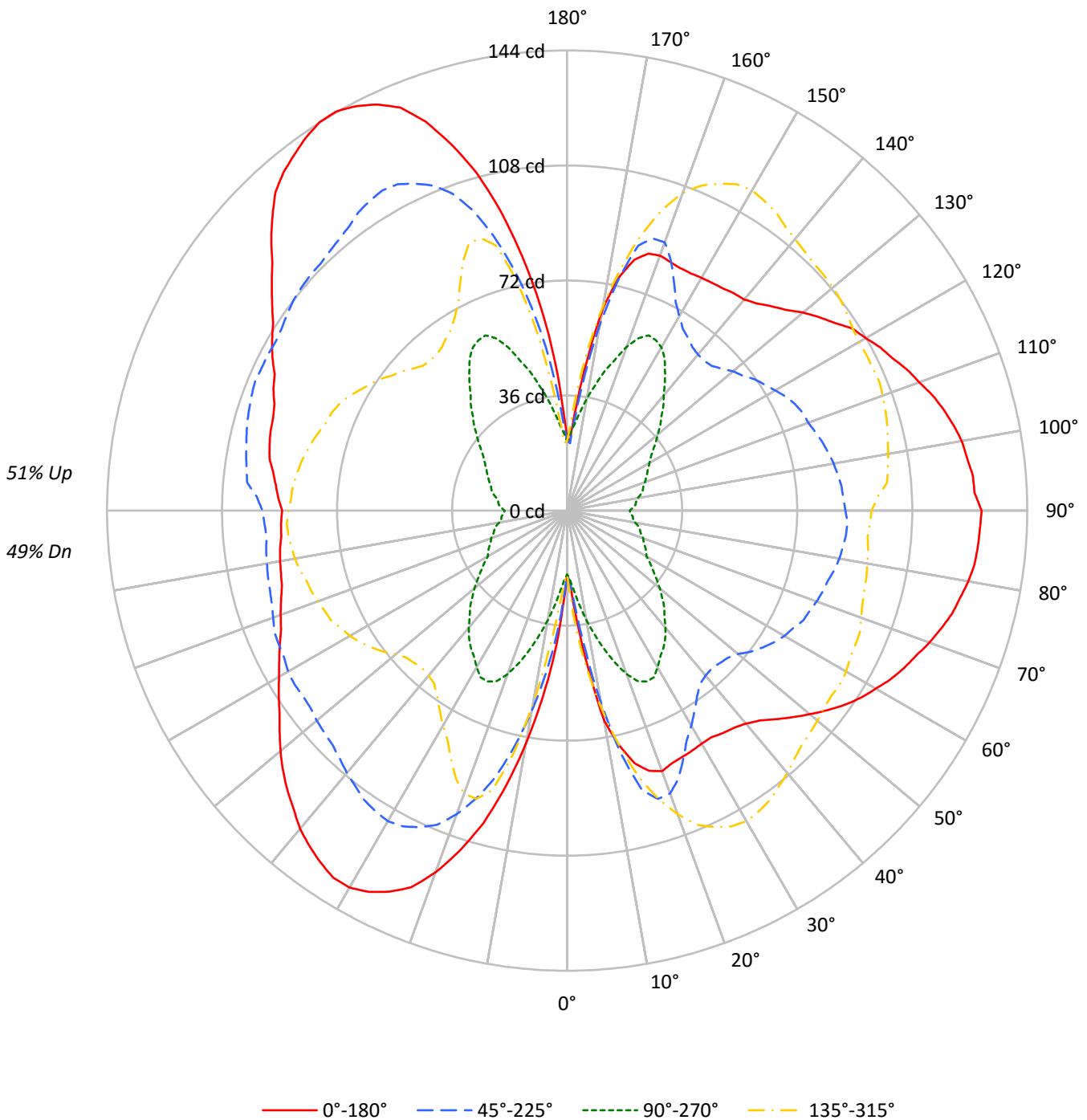
Lumens per Lamp: 1600 (1 lamp)
Luminaire Lumens: 1065.7 lumens
Efficiency: 66.6%
Efficacy: 39.5 lumens/watt
Spacing Criteria (0/90/45): 3.94 / 2.39 / 3.42
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 1')
CIE Type: General Diffuse

Input Watts (W): 27
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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CATALOG NUMBER: 104-CFL/2/13-120V-SWH

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	71	71	71	71	66	66	66	66	55	55	55	46	46	46	37	37	37	33
1	62	58	55	51	57	53	50	47	44	42	40	36	34	32	28	27	26	22
2	56	49	44	40	51	45	41	37	37	34	31	30	27	25	23	21	20	16
3	50	43	37	32	46	39	34	30	32	28	25	26	23	20	20	18	16	13
4	46	37	31	26	41	34	29	24	28	24	20	23	19	17	17	15	13	10
5	42	33	27	22	38	30	25	20	25	21	17	20	17	14	15	13	11	9
6	38	29	23	19	35	27	21	17	22	18	15	18	15	12	14	11	9	7
7	35	26	20	16	32	24	19	15	20	16	13	16	13	10	13	10	8	6
8	33	24	18	14	30	22	17	13	18	14	11	15	11	9	11	9	7	5
9	30	21	16	12	28	20	15	12	16	12	10	13	10	8	10	8	6	5
10	28	20	14	11	26	18	13	10	15	11	9	12	9	7	10	7	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	652	652	652	652
5°	1027	657	1343	657
10°	1881	749	2078	749
15°	2181	837	2695	837
20°	2209	898	3067	898
25°	2089	880	3230	880
30°	2011	775	3252	775
35°	1991	670	3150	670
40°	2014	576	3010	576
45°	2129	492	2855	492
50°	2294	416	2711	416
55°	2483	351	2574	351
60°	2662	299	2486	299
65°	2857	277	2435	277
70°	3072	259	2428	259
75°	3321	242	2461	242
80°	3590	223	2568	223
85°	3884	216	2704	216



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	4.0	0.4	0.2
10°-20°	22.5	2.1	1.4
20°-30°	43.9	4.1	2.7
30°-40°	56.6	5.3	3.5
40°-50°	64.8	6.1	4.0
50°-60°	73.6	6.9	4.6
60°-70°	81.5	7.6	5.1
70°-80°	86.6	8.1	5.4
80°-90°	90.9	8.5	5.7
90°-100°	93.2	8.7	5.8
100°-110°	91.6	8.6	5.7
110°-120°	85.6	8.0	5.3
120°-130°	76.5	7.2	4.8
130°-140°	67.0	6.3	4.2
140°-150°	57.3	5.4	3.6
150°-160°	43.8	4.1	2.7
160°-170°	22.5	2.1	1.4
170°-180°	4.0	0.4	0.2
0°-30°	70.4	6.6	4.4
0°-40°	126.9	11.9	7.9
0°-60°	265.3	24.9	16.6
0°-90°	524.3	49.2	32.8
90°-120°	270.4	25.4	16.9
90°-150°	471.1	44.2	29.4
90°-180°	541.0	50.8	33.8
0°-180°	1065.7	100.0	66.6

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	20	20	20	20	20	
5°	34	25	45	25	34	4
15°	82	45	101	45	82	23
25°	85	59	132	59	85	39
35°	85	52	134	52	85	53
45°	92	43	124	43	92	72
55°	106	33	110	33	106	95
65°	116	27	99	27	116	115
75°	125	24	92	24	125	132
85°	129	21	90	21	129	105
90°	130	20	89	20	130	71
95°	127	22	92	22	127	104
105°	122	24	96	24	122	129
115°	112	28	101	28	112	112
125°	102	33	113	33	102	92
135°	90	42	130	42	90	70
145°	85	53	142	53	85	53
155°	84	60	140	60	84	39
165°	81	45	109	45	81	23
175°	33	27	49	27	33	4
180°	22	22	22	22	22	



TEST NUMBER: 25488

CATALOG NUMBER: 104-CFL/2/13-120V-SWH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
2.5°	23.0	23.5	22.6	21.1	21.8	23.8	28.0	30.7	29.9	30.7	28.0
5°	34.1	34.2	31.2	26.8	25.4	31.0	39.9	45.0	44.6	45.0	39.9
7.5°	49.0	48.8	44.4	34.3	29.9	40.0	51.5	58.7	59.0	58.7	51.5
10°	66.8	67.1	61.2	44.4	34.7	49.5	63.6	72.0	73.8	72.0	63.6
12.5°	75.2	80.2	77.9	56.2	39.8	58.5	75.2	85.5	88.1	85.5	75.2
15°	81.9	86.7	90.6	69.1	44.9	67.8	86.1	97.9	101.2	97.9	86.1
17.5°	85.4	89.3	94.6	80.8	49.9	76.7	94.4	108.3	111.5	108.3	94.4
20°	86.8	90.3	94.2	89.8	54.4	84.8	101.1	116.7	120.5	116.7	101.1
22.5°	85.6	88.3	90.9	92.9	57.8	91.4	106.4	123.1	127.6	123.1	106.4
25°	85.1	85.7	85.9	91.8	59.0	98.0	109.3	127.4	131.6	127.4	109.3
27.5°	84.7	83.6	81.0	88.7	58.8	103.0	111.4	129.3	134.5	129.3	111.4
30°	84.2	81.7	77.7	83.6	56.6	103.4	112.2	130.1	136.2	130.1	112.2
32.5°	84.1	80.1	74.2	76.5	54.2	102.4	111.6	129.1	136.2	129.1	111.6
35°	85.0	79.9	70.9	69.1	52.5	101.2	110.6	127.2	134.5	127.2	110.6
37.5°	85.7	80.0	68.3	63.0	50.4	100.1	108.8	124.9	132.4	124.9	108.8
40°	87.0	80.4	67.4	57.7	47.9	98.4	107.2	122.8	130.0	122.8	107.2
42.5°	89.1	82.1	67.0	53.2	45.1	95.6	105.3	120.3	126.7	120.3	105.3
45°	92.3	84.7	67.5	49.6	43.0	92.3	103.8	118.0	123.8	118.0	103.8
47.5°	95.7	87.4	68.2	47.3	40.3	90.3	103.0	115.8	120.6	115.8	103.0
50°	99.1	90.7	69.8	45.9	37.8	89.2	102.3	113.2	117.1	113.2	102.3
52.5°	102.6	93.2	72.5	45.7	35.3	88.7	101.3	110.2	113.4	110.2	101.3
55°	106.0	96.2	74.7	46.0	32.9	89.3	101.0	107.3	109.9	107.3	101.0
57.5°	109.0	99.5	76.7	46.0	30.8	90.0	101.2	104.8	107.0	104.8	101.2
60°	111.5	101.9	78.5	46.8	28.6	90.4	100.8	102.1	104.1	102.1	100.8
62.5°	114.2	103.4	79.7	47.9	27.9	91.0	99.8	99.7	101.6	99.7	99.8
65°	116.4	105.5	81.5	48.4	26.9	91.0	99.5	97.2	99.2	97.2	99.5
67.5°	118.3	107.6	82.1	48.9	25.9	90.3	99.2	94.8	96.9	94.8	99.2
70°	120.7	109.0	83.1	48.8	25.3	90.1	97.9	93.0	95.4	93.0	97.9
72.5°	122.7	110.8	83.9	48.8	24.2	89.8	96.9	91.3	93.9	91.3	96.9
75°	124.7	112.9	84.5	49.2	23.6	89.4	96.3	89.5	92.4	89.5	96.3
77.5°	126.0	114.3	85.7	49.1	22.9	89.3	95.9	88.3	91.7	88.3	95.9
80°	127.5	115.3	86.5	49.0	21.6	92.2	95.4	88.0	91.2	88.0	95.4
82.5°	128.6	116.2	87.0	49.1	20.8	94.5	95.0	90.1	90.6	90.1	95.0
85°	129.0	116.9	87.6	49.4	20.6	97.6	94.4	91.9	89.8	91.9	94.4
87.5°	129.3	117.3	87.8	49.3	19.8	100.6	94.8	92.3	89.6	92.3	94.8
90°	129.7	117.0	87.1	48.8	19.6	103.4	95.3	93.3	89.2	93.3	95.3
92.5°	127.6	114.9	86.5	50.7	20.6	104.3	97.2	94.7	90.5	94.7	97.2
95°	127.4	114.2	86.2	50.6	21.5	107.2	100.5	95.4	91.5	95.4	100.5
97.5°	126.2	113.7	85.4	50.2	21.8	109.9	101.2	96.4	92.8	96.4	101.2
100°	125.4	112.8	84.7	50.1	22.4	113.0	102.0	96.8	94.6	96.8	102.0
102.5°	123.8	111.0	83.7	49.6	23.6	116.1	102.8	97.1	95.4	97.1	102.8
105°	122.0	109.7	82.7	49.8	24.5	116.7	103.7	97.9	96.1	97.9	103.7
107.5°	119.9	107.8	81.5	49.5	25.0	117.1	104.4	98.3	96.5	98.3	104.4
110°	117.3	105.3	80.3	49.1	25.9	117.5	105.1	99.5	97.5	99.5	105.1



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CATALOG NUMBER: 104-CFL/2/13-120V-SWH

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	115.2	103.6	79.8	49.1	26.7	118.2	105.7	101.1	99.5	101.1	105.7
115°	112.5	101.9	78.7	48.2	27.6	118.0	105.5	103.0	101.0	103.0	105.5
117.5°	110.5	99.9	77.2	47.9	28.6	117.8	105.6	105.5	104.0	105.5	105.6
120°	107.9	98.0	75.2	46.8	29.7	116.6	105.4	107.0	106.6	107.0	105.4
122.5°	105.9	95.5	73.3	46.2	31.0	114.7	106.0	109.0	109.1	109.0	106.0
125°	102.3	92.3	71.6	45.2	32.7	112.9	107.0	111.0	112.7	111.0	107.0
127.5°	99.4	89.9	69.3	44.7	34.9	111.7	108.0	113.9	116.5	113.9	108.0
130°	96.4	86.8	67.8	44.9	37.0	111.4	108.6	117.1	120.4	117.1	108.6
132.5°	92.9	83.5	65.7	45.6	39.5	112.1	109.0	121.0	125.6	121.0	109.0
135°	90.4	81.5	64.0	47.2	41.7	112.4	109.2	124.0	130.4	124.0	109.2
137.5°	87.9	79.3	63.5	50.0	44.6	113.3	110.0	125.9	135.1	125.9	110.0
140°	86.2	77.8	63.7	53.8	47.0	113.2	110.9	127.8	138.1	127.8	110.9
142.5°	85.7	77.6	64.4	58.4	50.2	112.1	112.1	129.7	140.3	129.7	112.1
145°	84.9	77.0	66.0	63.7	53.4	111.1	113.9	131.4	142.5	131.4	113.9
147.5°	84.5	77.5	67.4	70.2	56.7	109.3	114.9	132.3	144.1	132.3	114.9
150°	84.1	77.6	70.2	77.2	59.0	109.1	115.7	132.7	144.3	132.7	115.7
152.5°	83.7	79.0	73.5	83.8	60.1	107.5	115.1	131.5	142.7	131.5	115.1
155°	83.7	80.2	79.1	88.2	60.5	102.2	112.9	128.5	140.2	128.5	112.9
157.5°	84.2	82.6	84.8	90.7	58.4	94.8	110.1	124.4	136.5	124.4	110.1
160°	84.9	84.4	89.3	89.7	54.5	87.0	105.7	117.5	129.5	117.5	105.7
162.5°	84.3	84.8	89.3	83.1	49.3	77.7	98.6	109.4	120.0	109.4	98.6
165°	81.2	81.7	85.8	72.1	45.1	68.2	89.0	98.6	109.3	98.6	89.0
167.5°	74.7	74.6	74.0	59.8	39.9	58.1	77.5	86.3	95.8	86.3	77.5
170°	64.0	62.0	59.1	47.5	35.6	48.2	65.0	73.3	80.5	73.3	65.0
172.5°	47.0	45.0	43.1	36.0	31.1	38.9	51.7	59.0	64.9	59.0	51.7
175°	32.6	31.2	29.8	27.4	27.2	30.8	38.6	44.8	48.9	44.8	38.6
177.5°	22.3	21.0	21.1	22.1	24.4	25.0	27.4	30.2	32.6	30.2	27.4
180°	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8	21.8



TEST NUMBER: 25488

CATALOG NUMBER: 104-CFL/2/13-120V-SWH

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	20.0	20.0	20.0	20.0	20.0	20.0
2.5°	23.8	21.8	21.1	22.6	23.5	23.0
5°	31.0	25.4	26.8	31.2	34.2	34.1
7.5°	40.0	29.9	34.3	44.4	48.8	49.0
10°	49.5	34.7	44.4	61.2	67.1	66.8
12.5°	58.5	39.8	56.2	77.9	80.2	75.2
15°	67.8	44.9	69.1	90.6	86.7	81.9
17.5°	76.7	49.9	80.8	94.6	89.3	85.4
20°	84.8	54.4	89.8	94.2	90.3	86.8
22.5°	91.4	57.8	92.9	90.9	88.3	85.6
25°	98.0	59.0	91.8	85.9	85.7	85.1
27.5°	103.0	58.8	88.7	81.0	83.6	84.7
30°	103.4	56.6	83.6	77.7	81.7	84.2
32.5°	102.4	54.2	76.5	74.2	80.1	84.1
35°	101.2	52.5	69.1	70.9	79.9	85.0
37.5°	100.1	50.4	63.0	68.3	80.0	85.7
40°	98.4	47.9	57.7	67.4	80.4	87.0
42.5°	95.6	45.1	53.2	67.0	82.1	89.1
45°	92.3	43.0	49.6	67.5	84.7	92.3
47.5°	90.3	40.3	47.3	68.2	87.4	95.7
50°	89.2	37.8	45.9	69.8	90.7	99.1
52.5°	88.7	35.3	45.7	72.5	93.2	102.6
55°	89.3	32.9	46.0	74.7	96.2	106.0
57.5°	90.0	30.8	46.0	76.7	99.5	109.0
60°	90.4	28.6	46.8	78.5	101.9	111.5
62.5°	91.0	27.9	47.9	79.7	103.4	114.2
65°	91.0	26.9	48.4	81.5	105.5	116.4
67.5°	90.3	25.9	48.9	82.1	107.6	118.3
70°	90.1	25.3	48.8	83.1	109.0	120.7
72.5°	89.8	24.2	48.8	83.9	110.8	122.7
75°	89.4	23.6	49.2	84.5	112.9	124.7
77.5°	89.3	22.9	49.1	85.7	114.3	126.0
80°	92.2	21.6	49.0	86.5	115.3	127.5
82.5°	94.5	20.8	49.1	87.0	116.2	128.6
85°	97.6	20.6	49.4	87.6	116.9	129.0
87.5°	100.6	19.8	49.3	87.8	117.3	129.3
90°	103.4	19.6	48.8	87.1	117.0	129.7
92.5°	104.3	20.6	50.7	86.5	114.9	127.6
95°	107.2	21.5	50.6	86.2	114.2	127.4
97.5°	109.9	21.8	50.2	85.4	113.7	126.2
100°	113.0	22.4	50.1	84.7	112.8	125.4
102.5°	116.1	23.6	49.6	83.7	111.0	123.8
105°	116.7	24.5	49.8	82.7	109.7	122.0
107.5°	117.1	25.0	49.5	81.5	107.8	119.9
110°	117.5	25.9	49.1	80.3	105.3	117.3



TEST NUMBER: 25488

CATALOG NUMBER: 104-CFL/2/13-120V-SWH

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	118.2	26.7	49.1	79.8	103.6	115.2
115°	118.0	27.6	48.2	78.7	101.9	112.5
117.5°	117.8	28.6	47.9	77.2	99.9	110.5
120°	116.6	29.7	46.8	75.2	98.0	107.9
122.5°	114.7	31.0	46.2	73.3	95.5	105.9
125°	112.9	32.7	45.2	71.6	92.3	102.3
127.5°	111.7	34.9	44.7	69.3	89.9	99.4
130°	111.4	37.0	44.9	67.8	86.8	96.4
132.5°	112.1	39.5	45.6	65.7	83.5	92.9
135°	112.4	41.7	47.2	64.0	81.5	90.4
137.5°	113.3	44.6	50.0	63.5	79.3	87.9
140°	113.2	47.0	53.8	63.7	77.8	86.2
142.5°	112.1	50.2	58.4	64.4	77.6	85.7
145°	111.1	53.4	63.7	66.0	77.0	84.9
147.5°	109.3	56.7	70.2	67.4	77.5	84.5
150°	109.1	59.0	77.2	70.2	77.6	84.1
152.5°	107.5	60.1	83.8	73.5	79.0	83.7
155°	102.2	60.5	88.2	79.1	80.2	83.7
157.5°	94.8	58.4	90.7	84.8	82.6	84.2
160°	87.0	54.5	89.7	89.3	84.4	84.9
162.5°	77.7	49.3	83.1	89.3	84.8	84.3
165°	68.2	45.1	72.1	85.8	81.7	81.2
167.5°	58.1	39.9	59.8	74.0	74.6	74.7
170°	48.2	35.6	47.5	59.1	62.0	64.0
172.5°	38.9	31.1	36.0	43.1	45.0	47.0
175°	30.8	27.2	27.4	29.8	31.2	32.6
177.5°	25.0	24.4	22.1	21.1	21.0	22.3
180°	21.8	21.8	21.8	21.8	21.8	21.8

(END OF REPORT)