

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: 25490

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 25490
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-CCS
Description: DARK FABRIC SHADE SQUARE WALL SCONCE

Light Source: TWO SYLVANIA 13 WATT CFL LAMPS

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

Ballast/Driver: -

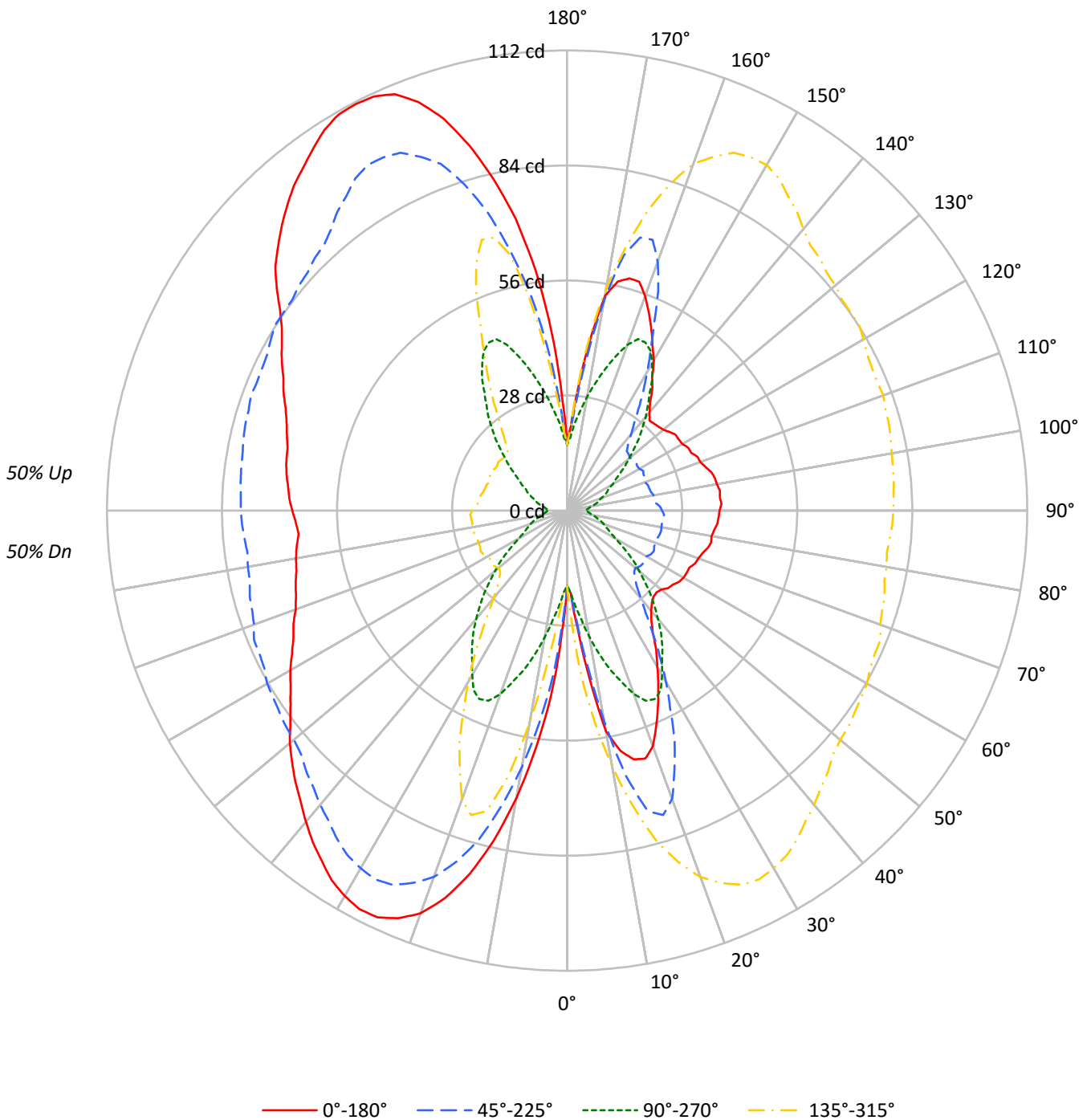
Summary

Lumens per Lamp: 1600 (1 lamp)
Luminaire Lumens: 654.7 lumens
Efficiency: 40.9%
Efficacy: 24.2 lumens/watt
Spacing Criteria (0/90/45): 3.07 / 2.07 / 2.87
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-CCS

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	44	44	44	44	41	41	41	41	34	34	34	28	28	28	23	23	23	21
1	39	36	34	32	35	33	31	30	28	26	25	23	22	21	18	17	17	14
2	35	31	28	25	32	28	26	23	24	22	20	19	18	16	15	14	13	11
3	31	27	23	21	29	25	22	19	21	18	16	17	15	13	13	12	11	9
4	29	24	20	17	26	22	18	16	18	16	14	15	13	11	12	10	9	7
5	26	21	17	14	24	19	16	13	16	13	11	13	11	10	10	9	8	6
6	24	19	15	12	22	17	14	12	14	12	10	12	10	8	9	8	7	5
7	22	17	13	11	20	15	12	10	13	10	9	11	9	7	9	7	6	5
8	21	15	12	9	19	14	11	9	12	9	8	10	8	6	8	6	5	4
9	19	14	11	8	17	13	10	8	11	8	7	9	7	6	7	6	5	4
10	18	13	9	7	16	12	9	7	10	8	6	8	6	5	7	5	4	3

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	597	597	597	597
5°	855	606	1367	606
10°	1537	674	1996	674
15°	1670	744	2437	744
20°	1552	784	2654	784
25°	1284	755	2680	755
30°	1048	633	2586	633
35°	852	515	2438	515
40°	736	413	2290	413
45°	685	327	2157	327
50°	692	252	2040	252
55°	735	191	1925	191
60°	781	142	1858	142
65°	805	114	1804	114
70°	865	96	1789	96
75°	943	79	1822	79
80°	1005	65	1886	65
85°	1105	56	1975	56



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	3.7	0.6	0.2
10°-20°	19.8	3.0	1.2
20°-30°	35.8	5.5	2.2
30°-40°	41.4	6.3	2.6
40°-50°	42.2	6.4	2.6
50°-60°	44.1	6.7	2.8
60°-70°	46.4	7.1	2.9
70°-80°	47.6	7.3	3.0
80°-90°	49.0	7.5	3.1
90°-100°	49.6	7.6	3.1
100°-110°	48.9	7.5	3.1
110°-120°	47.1	7.2	2.9
120°-130°	44.0	6.7	2.8
130°-140°	41.2	6.3	2.6
140°-150°	39.1	6.0	2.4
150°-160°	33.1	5.1	2.1
160°-170°	18.3	2.8	1.1
170°-180°	3.4	0.5	0.2
0°-30°	59.4	9.1	3.7
0°-40°	100.8	15.4	6.3
0°-60°	187.1	28.6	11.7
0°-90°	330.1	50.4	20.6
90°-120°	145.5	22.2	9.1
90°-150°	269.9	41.2	16.9
90°-180°	325.0	49.6	20.3
0°-180°	654.7	100.0	40.9

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	18	18	18	18	18	
5°	28	23	45	23	28	4
15°	63	40	92	40	63	17
25°	52	51	109	51	52	24
35°	36	40	104	40	36	23
45°	30	29	94	29	30	23
55°	31	18	82	18	31	28
65°	33	11	74	11	33	33
75°	35	8	68	8	35	37
85°	37	5	66	5	37	30
90°	37	5	67	5	37	20
95°	37	5	68	5	37	31
105°	36	8	71	8	36	38
115°	33	11	76	11	33	33
125°	32	16	85	16	32	29
135°	30	25	98	25	30	23
145°	36	35	108	35	36	23
155°	48	45	111	45	48	22
165°	58	36	92	36	58	16
175°	29	21	44	21	29	4
180°	16	16	16	16	16	



TEST NUMBER: 25490

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.3
2.5°	20.2	21.4	20.2	19.7	20.0	22.6	27.8	31.2	30.1	31.2	27.8
5°	28.4	29.7	27.1	24.6	23.4	30.6	40.7	46.0	45.4	46.0	40.7
7.5°	40.6	41.4	38.1	30.9	26.9	39.4	52.1	58.3	58.2	58.3	52.1
10°	54.6	56.5	52.2	39.4	31.2	48.7	63.3	71.0	70.9	71.0	63.3
12.5°	59.9	66.9	66.1	49.8	35.6	57.4	73.5	81.6	82.1	81.6	73.5
15°	62.7	70.1	75.7	61.1	39.9	66.2	82.8	91.1	91.5	91.1	82.8
17.5°	63.3	69.9	77.7	71.2	43.5	74.2	89.6	98.2	98.9	98.2	89.6
20°	61.0	67.0	74.7	78.2	47.5	80.9	94.9	103.8	104.3	103.8	94.9
22.5°	56.7	62.1	68.2	79.0	50.1	87.3	98.1	107.9	107.4	107.9	98.1
25°	52.3	55.5	61.9	76.0	50.6	92.0	100.5	109.3	109.2	109.3	100.5
27.5°	48.0	50.0	54.3	71.7	49.3	96.3	101.2	109.6	109.4	109.6	101.2
30°	43.9	45.3	48.1	64.2	46.2	97.7	100.5	109.2	108.3	109.2	100.5
32.5°	40.3	40.5	41.9	55.2	43.0	95.7	99.5	107.3	106.7	107.3	99.5
35°	36.4	36.4	36.3	47.2	40.4	95.2	97.6	104.7	104.1	104.7	97.6
37.5°	33.6	33.1	31.4	39.5	37.5	93.6	95.3	102.1	101.7	102.1	95.3
40°	31.8	30.9	27.9	33.4	34.4	91.2	93.5	99.6	98.9	99.6	93.5
42.5°	30.5	29.4	25.1	27.1	31.4	88.1	91.4	97.2	96.0	97.2	91.4
45°	29.7	28.5	23.3	22.8	28.6	85.4	89.8	94.7	93.5	94.7	89.8
47.5°	29.5	28.1	22.1	19.3	25.6	82.5	87.8	92.7	90.8	92.7	87.8
50°	29.9	28.7	21.7	16.9	22.9	80.5	86.8	90.3	88.1	90.3	86.8
52.5°	31.0	29.4	22.3	15.6	20.6	80.3	86.3	87.6	84.9	87.6	86.3
55°	31.4	30.0	22.5	14.5	17.9	80.7	85.5	84.9	82.2	84.9	85.5
57.5°	32.3	30.3	22.1	14.7	15.6	80.7	84.8	83.1	79.8	83.1	84.8
60°	32.7	30.4	22.3	14.4	13.6	81.5	84.3	80.8	77.8	80.8	84.3
62.5°	32.8	31.0	23.0	13.8	12.0	82.0	83.1	78.6	75.5	78.6	83.1
65°	32.8	31.2	23.3	13.8	11.1	81.9	82.6	76.7	73.5	76.7	82.6
67.5°	33.7	31.0	22.9	13.9	10.1	81.5	82.5	74.9	72.1	74.9	82.5
70°	34.0	31.9	23.0	13.1	9.4	80.9	81.1	73.3	70.3	73.3	81.1
72.5°	34.5	32.4	22.9	13.5	8.6	80.4	80.4	72.0	69.2	72.0	80.4
75°	35.4	32.3	23.2	12.9	7.7	80.8	80.0	70.7	68.4	70.7	80.0
77.5°	35.9	33.0	23.4	12.3	7.1	81.0	79.1	69.6	67.5	69.6	79.1
80°	35.7	33.4	23.3	12.9	6.3	83.2	78.9	69.2	67.0	69.2	78.9
82.5°	36.1	33.6	23.3	12.8	5.7	86.1	78.5	68.6	66.4	68.6	78.5
85°	36.7	33.3	23.4	12.5	5.3	87.8	78.8	67.8	65.6	67.8	78.8
87.5°	36.9	32.5	23.6	12.3	4.9	86.5	79.2	68.8	66.1	68.8	79.2
90°	37.1	32.2	23.1	12.5	4.8	87.5	79.4	67.1	66.9	67.1	79.4
92.5°	37.6	31.9	22.6	12.1	4.5	90.8	79.5	69.7	67.7	69.7	79.5
95°	37.3	31.7	21.6	11.2	5.1	91.1	79.8	70.3	68.2	70.3	79.8
97.5°	37.5	31.6	21.5	11.3	5.5	90.9	80.0	70.9	68.9	70.9	80.0
100°	37.0	31.4	21.4	11.5	5.9	91.4	80.2	71.2	69.4	71.2	80.2
102.5°	36.8	31.0	20.9	11.1	6.9	91.5	80.7	72.2	69.7	72.2	80.7
105°	36.3	30.7	20.7	11.3	7.6	91.7	81.1	73.1	70.6	73.1	81.1
107.5°	35.3	29.6	20.6	12.1	8.0	92.2	81.3	73.7	71.6	73.7	81.3
110°	34.5	29.3	20.2	12.0	8.9	92.7	81.9	74.9	72.9	74.9	81.9



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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	34.3	28.7	20.8	12.6	9.8	92.8	81.7	76.6	74.7	76.6	81.7
115°	33.3	28.6	20.5	12.8	10.7	92.2	81.9	77.7	76.2	77.7	81.9
117.5°	33.2	28.4	20.9	13.0	11.3	91.4	82.3	79.3	78.3	79.3	82.3
120°	32.4	28.1	20.3	12.9	12.8	90.2	83.3	81.1	80.2	81.1	83.3
122.5°	32.2	28.0	20.2	13.3	13.9	88.0	84.2	82.6	82.3	82.6	84.2
125°	32.2	27.1	20.5	13.1	15.6	86.8	84.2	85.5	85.3	85.5	84.2
127.5°	31.4	27.0	20.3	13.6	17.7	85.8	84.3	88.4	89.1	88.4	84.3
130°	30.6	26.5	20.0	14.4	19.6	86.1	85.2	91.1	92.7	91.1	85.2
132.5°	30.2	26.0	20.3	15.8	21.9	87.4	85.7	93.1	95.4	93.1	85.7
135°	29.9	25.7	20.5	18.4	24.6	89.2	86.9	94.6	98.2	94.6	86.9
137.5°	29.7	26.7	22.0	22.2	27.0	90.6	87.6	96.9	100.8	96.9	87.6
140°	31.2	28.0	24.2	26.9	29.8	92.0	89.4	99.3	103.4	99.3	89.4
142.5°	33.1	29.5	26.8	32.7	32.2	92.2	91.8	101.4	105.4	101.4	91.8
145°	36.1	32.3	30.3	38.3	35.1	92.6	93.6	103.4	107.7	103.4	93.6
147.5°	38.5	35.6	34.5	45.6	38.6	92.9	95.9	105.5	109.9	105.5	95.9
150°	42.2	39.0	38.9	53.5	41.3	93.8	97.1	106.4	111.3	106.4	97.1
152.5°	45.0	43.6	44.0	61.8	43.9	91.0	96.9	106.9	111.5	106.9	96.9
155°	48.5	47.8	49.9	68.4	45.1	85.2	96.1	105.6	111.2	105.6	96.1
157.5°	52.0	52.3	57.9	72.2	45.2	79.4	93.2	102.3	109.7	102.3	93.2
160°	55.5	56.9	64.4	73.8	42.9	72.0	89.8	98.3	105.8	98.3	89.8
162.5°	58.4	60.5	69.1	70.3	39.4	64.5	83.3	91.7	100.0	91.7	83.3
165°	58.5	62.0	68.8	62.6	35.6	55.8	75.4	84.6	92.0	84.6	75.4
167.5°	57.1	59.3	63.6	52.0	31.8	46.8	65.3	74.9	82.5	74.9	65.3
170°	53.0	53.2	52.0	41.8	28.2	38.5	55.0	63.7	72.0	63.7	55.0
172.5°	41.1	40.5	38.5	31.6	24.4	29.9	43.1	51.3	58.9	51.3	43.1
175°	29.3	28.0	27.5	24.1	21.4	23.1	31.0	38.4	43.8	38.4	31.0
177.5°	20.5	19.5	19.5	18.8	17.8	17.9	20.2	23.6	27.4	23.6	20.2
180°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0



TEST NUMBER: 25490

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

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	18.3	18.3	18.3	18.3	18.3	18.3
2.5°	22.6	20.0	19.7	20.2	21.4	20.2
5°	30.6	23.4	24.6	27.1	29.7	28.4
7.5°	39.4	26.9	30.9	38.1	41.4	40.6
10°	48.7	31.2	39.4	52.2	56.5	54.6
12.5°	57.4	35.6	49.8	66.1	66.9	59.9
15°	66.2	39.9	61.1	75.7	70.1	62.7
17.5°	74.2	43.5	71.2	77.7	69.9	63.3
20°	80.9	47.5	78.2	74.7	67.0	61.0
22.5°	87.3	50.1	79.0	68.2	62.1	56.7
25°	92.0	50.6	76.0	61.9	55.5	52.3
27.5°	96.3	49.3	71.7	54.3	50.0	48.0
30°	97.7	46.2	64.2	48.1	45.3	43.9
32.5°	95.7	43.0	55.2	41.9	40.5	40.3
35°	95.2	40.4	47.2	36.3	36.4	36.4
37.5°	93.6	37.5	39.5	31.4	33.1	33.6
40°	91.2	34.4	33.4	27.9	30.9	31.8
42.5°	88.1	31.4	27.1	25.1	29.4	30.5
45°	85.4	28.6	22.8	23.3	28.5	29.7
47.5°	82.5	25.6	19.3	22.1	28.1	29.5
50°	80.5	22.9	16.9	21.7	28.7	29.9
52.5°	80.3	20.6	15.6	22.3	29.4	31.0
55°	80.7	17.9	14.5	22.5	30.0	31.4
57.5°	80.7	15.6	14.7	22.1	30.3	32.3
60°	81.5	13.6	14.4	22.3	30.4	32.7
62.5°	82.0	12.0	13.8	23.0	31.0	32.8
65°	81.9	11.1	13.8	23.3	31.2	32.8
67.5°	81.5	10.1	13.9	22.9	31.0	33.7
70°	80.9	9.4	13.1	23.0	31.9	34.0
72.5°	80.4	8.6	13.5	22.9	32.4	34.5
75°	80.8	7.7	12.9	23.2	32.3	35.4
77.5°	81.0	7.1	12.3	23.4	33.0	35.9
80°	83.2	6.3	12.9	23.3	33.4	35.7
82.5°	86.1	5.7	12.8	23.3	33.6	36.1
85°	87.8	5.3	12.5	23.4	33.3	36.7
87.5°	86.5	4.9	12.3	23.6	32.5	36.9
90°	87.5	4.8	12.5	23.1	32.2	37.1
92.5°	90.8	4.5	12.1	22.6	31.9	37.6
95°	91.1	5.1	11.2	21.6	31.7	37.3
97.5°	90.9	5.5	11.3	21.5	31.6	37.5
100°	91.4	5.9	11.5	21.4	31.4	37.0
102.5°	91.5	6.9	11.1	20.9	31.0	36.8
105°	91.7	7.6	11.3	20.7	30.7	36.3
107.5°	92.2	8.0	12.1	20.6	29.6	35.3
110°	92.7	8.9	12.0	20.2	29.3	34.5



TEST NUMBER: 25490

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	92.8	9.8	12.6	20.8	28.7	34.3
115°	92.2	10.7	12.8	20.5	28.6	33.3
117.5°	91.4	11.3	13.0	20.9	28.4	33.2
120°	90.2	12.8	12.9	20.3	28.1	32.4
122.5°	88.0	13.9	13.3	20.2	28.0	32.2
125°	86.8	15.6	13.1	20.5	27.1	32.2
127.5°	85.8	17.7	13.6	20.3	27.0	31.4
130°	86.1	19.6	14.4	20.0	26.5	30.6
132.5°	87.4	21.9	15.8	20.3	26.0	30.2
135°	89.2	24.6	18.4	20.5	25.7	29.9
137.5°	90.6	27.0	22.2	22.0	26.7	29.7
140°	92.0	29.8	26.9	24.2	28.0	31.2
142.5°	92.2	32.2	32.7	26.8	29.5	33.1
145°	92.6	35.1	38.3	30.3	32.3	36.1
147.5°	92.9	38.6	45.6	34.5	35.6	38.5
150°	93.8	41.3	53.5	38.9	39.0	42.2
152.5°	91.0	43.9	61.8	44.0	43.6	45.0
155°	85.2	45.1	68.4	49.9	47.8	48.5
157.5°	79.4	45.2	72.2	57.9	52.3	52.0
160°	72.0	42.9	73.8	64.4	56.9	55.5
162.5°	64.5	39.4	70.3	69.1	60.5	58.4
165°	55.8	35.6	62.6	68.8	62.0	58.5
167.5°	46.8	31.8	52.0	63.6	59.3	57.1
170°	38.5	28.2	41.8	52.0	53.2	53.0
172.5°	29.9	24.4	31.6	38.5	40.5	41.1
175°	23.1	21.4	24.1	27.5	28.0	29.3
177.5°	17.9	17.8	18.8	19.5	19.5	20.5
180°	16.0	16.0	16.0	16.0	16.0	16.0

(END OF REPORT)