

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: 20441

Luminaire Tested: **664-CFL/1/32**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 20441
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 664-CFL/1/32
Description: INTERIOR WALL MOUNT LUMINAIRE WITH WHITE PLASTIC LENS AND SHADE

Light Source: ONE SYLVANIA 32 WATT CPFL LAMP

CF32DT/E/IN/841. LUMEN RATING = 2400 LMS.

Ballast/Driver: -

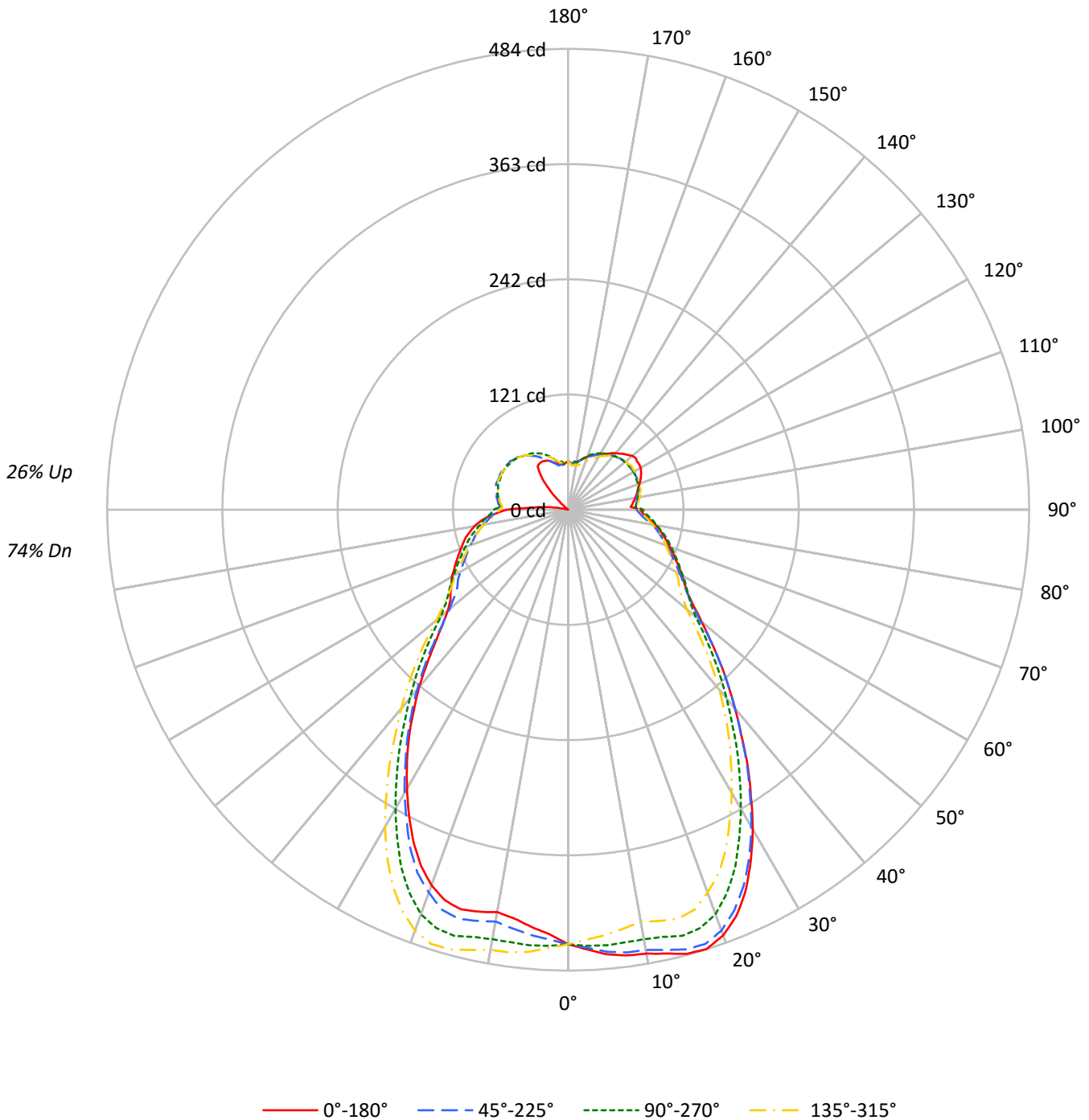
Summary

Lumens per Lamp: 2400 (1 lamp)
Luminaire Lumens: 1610.0 lumens
Efficiency: 67.1%
Efficacy: 47.4 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.18 / 1.2
Luminous Opening: (L: 0 ' x W: -1.17 ' x H: 0 '
CIE Type: Semi-Direct

Input Watts (W): 34
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





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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	76	76	76	76	72	72	72	72	65	65	65	58	58	58	52	52	52	49
1	68	64	61	58	64	61	58	56	55	53	51	49	48	46	44	43	42	39
2	62	56	51	47	58	53	49	45	48	45	42	43	40	38	39	37	35	32
3	56	49	44	40	53	47	42	38	42	38	35	38	35	32	34	32	30	27
4	52	44	38	34	49	42	37	33	38	34	30	34	31	28	31	28	26	24
5	48	39	33	29	45	38	32	28	34	30	26	31	27	24	28	25	23	21
6	44	36	30	26	42	34	29	25	31	27	23	28	25	22	26	23	20	18
7	41	32	27	23	39	31	26	22	28	24	21	26	22	19	24	20	18	17
8	38	30	24	20	36	28	23	20	26	22	19	24	20	17	22	19	16	15
9	36	27	22	18	34	26	21	18	24	20	17	22	18	16	20	17	15	14
10	34	25	20	17	32	24	19	16	22	18	15	21	17	14	19	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	Luminous shape not found,			
5°	reference photometric report, or contact			
10°	the photometric lab for calculations.			
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°	43.5	2.7	1.8
10°-20°	129.8	8.1	5.4
20°-30°	189.2	11.8	7.9
30°-40°	193.8	12.0	8.1
40°-50°	164.7	10.2	6.9
50°-60°	137.0	8.5	5.7
60°-70°	124.6	7.7	5.2
70°-80°	110.9	6.9	4.6
80°-90°	92.4	5.7	3.9
90°-100°	74.6	4.6	3.1
100°-110°	72.3	4.5	3.0
110°-120°	69.2	4.3	2.9
120°-130°	62.8	3.9	2.6
130°-140°	54.1	3.4	2.3
140°-150°	42.7	2.7	1.8
150°-160°	28.5	1.8	1.2
160°-170°	15.1	0.9	0.6
170°-180°	4.7	0.3	0.2
0°-30°	362.5	22.5	15.1
0°-40°	556.3	34.6	23.2
0°-60°	858.1	53.3	35.8
0°-90°	1185.9	73.7	49.4
90°-120°	216.1	13.4	9.0
90°-150°	375.7	23.3	15.7
90°-180°	424.0	26.3	17.7
0°-180°	1610.0	100.0	67.1

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	456	456	456	456	456	
5°	469	459	440	459	469	45
15°	483	463	435	463	483	136
25°	441	415	384	415	441	201
35°	329	310	292	310	329	205
45°	225	214	197	214	225	174
55°	153	153	151	153	153	140
65°	125	126	130	126	125	124
75°	103	105	111	105	103	109
85°	82	85	84	85	82	69
90°	76	78	64	78	76	40
95°	68	72	31	72	68	56
105°	75	77	1	77	75	80
115°	84	78	0	78	84	83
125°	88	79	0	79	88	79
135°	83	76	20	76	83	64
145°	72	71	56	71	72	45
155°	63	65	56	65	63	29
165°	55	54	51	54	55	16
175°	48	48	48	48	48	5
180°	50	50	50	50	50	



TEST NUMBER: 20441
 CATALOG NUMBER: 664-CFL/1/32

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	456.3	456.3	456.3	456.3	456.3	456.3	456.3	456.3	456.3	456.3	456.3
2.5°	462.4	462.4	460.6	459.4	458.4	454.8	451.9	448.4	446.3	448.4	451.9
5°	468.8	469.0	466.0	463.7	459.2	452.7	448.4	442.9	439.9	442.9	448.4
7.5°	472.1	472.7	469.0	464.4	458.3	449.3	443.8	437.4	433.0	437.4	443.8
10°	473.4	474.4	469.5	466.0	458.1	447.5	439.2	433.0	429.2	433.0	439.2
12.5°	477.5	478.7	473.6	467.5	459.6	451.9	442.4	436.3	432.5	436.3	442.4
15°	482.8	484.9	478.0	470.8	463.2	453.9	444.7	437.9	434.6	437.9	444.7
17.5°	483.6	486.2	478.2	469.8	460.8	449.6	440.6	433.7	430.2	433.7	440.6
20°	475.7	480.0	470.4	463.5	452.0	438.3	427.9	422.7	419.7	422.7	427.9
22.5°	461.7	465.4	455.5	448.4	435.6	420.2	413.1	406.7	404.4	406.7	413.1
25°	441.2	445.2	435.8	428.2	414.6	400.0	392.2	386.2	384.4	386.2	392.2
27.5°	415.4	418.5	411.5	403.4	388.7	373.3	367.4	363.3	361.7	363.3	367.4
30°	387.6	390.6	384.4	377.9	362.5	347.9	343.6	339.0	338.5	339.0	343.6
32.5°	357.1	360.0	355.4	350.2	335.3	322.4	318.3	313.7	315.0	313.7	318.3
35°	328.6	330.9	327.0	323.4	309.5	296.9	294.6	290.2	291.5	290.2	294.6
37.5°	298.6	301.7	298.1	297.1	282.4	271.9	270.3	267.8	266.2	267.8	270.3
40°	272.3	274.6	272.8	272.3	258.6	248.3	246.5	244.8	243.5	244.8	246.5
42.5°	247.8	249.9	247.8	247.3	236.0	223.3	223.5	220.5	219.2	220.5	223.5
45°	224.6	226.1	224.3	224.3	213.7	201.3	200.5	198.0	197.2	198.0	200.5
47.5°	202.1	203.6	201.9	202.4	193.2	181.9	179.4	179.4	178.8	179.4	179.4
50°	182.7	181.7	180.6	182.7	174.6	167.3	162.5	164.8	164.8	164.8	162.5
52.5°	166.1	165.0	164.5	167.6	162.1	155.8	150.7	156.3	155.8	156.3	150.7
55°	152.8	153.8	152.3	158.1	153.2	148.9	142.0	151.2	150.7	151.2	142.0
57.5°	144.8	145.9	143.6	151.0	146.4	141.5	137.2	145.7	145.1	145.7	137.2
60°	138.2	138.8	135.6	143.6	138.9	135.1	130.6	141.5	141.1	141.5	130.6
62.5°	131.3	131.5	128.3	136.5	132.2	128.3	124.6	135.4	134.9	135.4	124.6
65°	124.6	126.2	121.6	130.3	126.4	122.6	118.8	130.3	129.8	130.3	118.8
67.5°	118.8	120.3	115.4	124.1	120.5	117.7	114.0	124.4	124.6	124.4	114.0
70°	113.1	115.2	109.9	117.7	115.0	113.4	109.3	119.3	120.0	119.3	109.3
72.5°	108.3	109.3	104.2	113.6	110.4	108.6	104.2	115.4	115.4	115.4	104.2
75°	103.2	105.0	99.6	108.8	105.2	104.2	100.3	110.4	111.1	110.4	100.3
77.5°	98.6	100.3	94.8	103.2	99.6	99.1	94.5	106.3	105.3	106.3	94.5
80°	93.2	95.0	89.7	97.8	94.3	94.3	90.4	101.2	99.9	101.2	90.4
82.5°	87.4	89.9	83.0	90.9	90.1	89.4	85.3	96.1	93.0	96.1	85.3
85°	81.7	85.1	78.0	87.1	85.1	85.3	81.0	90.4	84.3	90.4	81.0
87.5°	78.2	79.7	74.6	82.8	80.8	81.5	76.6	84.3	74.3	84.3	76.6
90°	75.7	76.9	71.8	79.9	78.4	79.4	74.6	78.7	64.4	78.7	74.6
92.5°	65.6	70.5	69.3	68.2	70.6	71.1	71.6	58.3	41.3	58.3	71.6
95°	67.7	71.6	71.1	71.3	72.1	72.0	73.6	57.4	30.7	57.4	73.6
97.5°	69.5	73.6	72.8	72.5	73.5	72.3	74.8	54.9	20.7	54.9	74.8
100°	71.6	76.6	73.0	74.1	74.7	74.1	76.4	52.6	10.5	52.6	76.4
102.5°	73.6	78.2	74.6	75.3	75.8	74.8	76.6	48.2	3.3	48.2	76.6
105°	75.3	79.9	76.6	75.3	76.6	76.4	78.7	45.2	1.3	45.2	78.7
107.5°	77.1	81.2	77.6	76.6	77.1	76.1	79.4	42.2	0.0	42.2	79.4
110°	79.7	82.8	78.9	78.4	78.3	77.6	80.5	38.6	0.0	38.6	80.5



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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°	82.2	84.3	79.4	78.9	78.2	77.1	79.9	37.3	0.0	37.3	79.9
115°	84.3	84.5	79.4	78.4	78.5	78.4	79.9	35.3	0.0	35.3	79.9
117.5°	86.3	86.6	79.4	79.4	79.1	77.6	80.7	34.2	0.0	34.2	80.7
120°	87.9	87.1	79.9	79.4	79.3	78.7	80.5	33.2	0.0	33.2	80.5
122.5°	88.4	86.9	78.7	78.7	79.3	78.4	80.3	33.7	0.0	33.7	80.3
125°	88.4	86.9	79.2	78.9	78.8	78.4	80.7	34.7	0.0	34.7	80.7
127.5°	89.2	85.3	78.0	77.6	78.3	77.4	79.2	37.6	0.5	37.6	79.2
130°	87.9	84.3	77.4	77.1	78.0	77.1	79.4	40.4	3.3	40.4	79.4
132.5°	85.1	82.2	77.4	75.9	77.2	75.3	77.6	44.5	11.0	44.5	77.6
135°	82.8	80.5	76.6	74.8	76.3	74.8	76.9	47.7	20.4	47.7	76.9
137.5°	79.9	78.7	75.1	74.1	75.2	74.1	75.9	51.4	30.7	51.4	75.9
140°	77.4	77.1	73.9	73.6	73.5	72.3	73.6	55.1	41.3	55.1	73.6
142.5°	74.8	74.8	72.3	71.3	72.9	71.8	71.8	57.2	49.6	57.2	71.8
145°	71.6	72.8	69.5	70.0	71.2	69.5	69.0	58.5	55.7	58.5	69.0
147.5°	70.0	70.7	68.2	68.2	70.3	69.0	67.0	57.4	56.9	57.4	67.0
150°	67.4	68.4	66.1	66.4	68.2	66.7	64.4	57.8	57.4	57.8	64.4
152.5°	65.6	66.7	65.2	64.7	66.8	65.4	61.5	56.2	57.4	56.2	61.5
155°	63.3	64.4	62.6	62.6	64.8	62.4	58.0	55.1	56.5	55.1	58.0
157.5°	61.3	62.1	60.8	60.8	62.6	60.1	56.2	53.9	56.0	53.9	56.2
160°	59.2	59.0	59.2	59.7	60.0	56.7	54.4	52.8	54.2	52.8	54.4
162.5°	56.7	56.7	56.9	57.4	57.6	54.4	52.1	52.1	51.9	52.1	52.1
165°	54.9	55.7	54.2	54.2	54.4	51.1	49.8	49.6	50.9	49.6	49.8
167.5°	52.6	53.4	52.3	52.8	52.0	48.2	47.5	48.2	49.3	48.2	47.5
170°	50.0	51.4	50.0	50.5	50.7	48.0	48.2	48.6	49.3	48.6	48.2
172.5°	49.8	51.1	50.0	51.6	51.1	47.7	47.5	46.8	47.7	46.8	47.5
175°	48.2	49.6	49.1	49.1	48.1	46.8	46.3	47.5	47.7	47.5	46.3
177.5°	49.6	49.3	49.1	49.3	49.1	48.8	48.8	48.8	49.8	48.8	48.8
180°	50.4	50.4	50.4	50.4	50.4	50.4	50.4	50.4	50.4	50.4	50.4



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	456.3	456.3	456.3	456.3	456.3	456.3
2.5°	454.8	458.4	459.4	460.6	462.4	462.4
5°	452.7	459.2	463.7	466.0	469.0	468.8
7.5°	449.3	458.3	464.4	469.0	472.7	472.1
10°	447.5	458.1	466.0	469.5	474.4	473.4
12.5°	451.9	459.6	467.5	473.6	478.7	477.5
15°	453.9	463.2	470.8	478.0	484.9	482.8
17.5°	449.6	460.8	469.8	478.2	486.2	483.6
20°	438.3	452.0	463.5	470.4	480.0	475.7
22.5°	420.2	435.6	448.4	455.5	465.4	461.7
25°	400.0	414.6	428.2	435.8	445.2	441.2
27.5°	373.3	388.7	403.4	411.5	418.5	415.4
30°	347.9	362.5	377.9	384.4	390.6	387.6
32.5°	322.4	335.3	350.2	355.4	360.0	357.1
35°	296.9	309.5	323.4	327.0	330.9	328.6
37.5°	271.9	282.4	297.1	298.1	301.7	298.6
40°	248.3	258.6	272.3	272.8	274.6	272.3
42.5°	223.3	236.0	247.3	247.8	249.9	247.8
45°	201.3	213.7	224.3	224.3	226.1	224.6
47.5°	181.9	193.2	202.4	201.9	203.6	202.1
50°	167.3	174.6	182.7	180.6	181.7	182.7
52.5°	155.8	162.1	167.6	164.5	165.0	166.1
55°	148.9	153.2	158.1	152.3	153.8	152.8
57.5°	141.5	146.4	151.0	143.6	145.9	144.8
60°	135.1	138.9	143.6	135.6	138.8	138.2
62.5°	128.3	132.2	136.5	128.3	131.5	131.3
65°	122.6	126.4	130.3	121.6	126.2	124.6
67.5°	117.7	120.5	124.1	115.4	120.3	118.8
70°	113.4	115.0	117.7	109.9	115.2	113.1
72.5°	108.6	110.4	113.6	104.2	109.3	108.3
75°	104.2	105.2	108.8	99.6	105.0	103.2
77.5°	99.1	99.6	103.2	94.8	100.3	98.6
80°	94.3	94.3	97.8	89.7	95.0	93.2
82.5°	89.4	90.1	90.9	83.0	89.9	87.4
85°	85.3	85.1	87.1	78.0	85.1	81.7
87.5°	81.5	80.8	82.8	74.6	79.7	78.2
90°	79.4	78.4	79.9	71.8	76.9	75.7
92.5°	71.1	70.6	68.2	69.3	70.5	65.6
95°	72.0	72.1	71.3	71.1	71.6	67.7
97.5°	72.3	73.5	72.5	72.8	73.6	69.5
100°	74.1	74.7	74.1	73.0	76.6	71.6
102.5°	74.8	75.8	75.3	74.6	78.2	73.6
105°	76.4	76.6	75.3	76.6	79.9	75.3
107.5°	76.1	77.1	76.6	77.6	81.2	77.1
110°	77.6	78.3	78.4	78.9	82.8	79.7



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	77.1	78.2	78.9	79.4	84.3	82.2
115°	78.4	78.5	78.4	79.4	84.5	84.3
117.5°	77.6	79.1	79.4	79.4	86.6	86.3
120°	78.7	79.3	79.4	79.9	87.1	87.9
122.5°	78.4	79.3	78.7	78.7	86.9	88.4
125°	78.4	78.8	78.9	79.2	86.9	88.4
127.5°	77.4	78.3	77.6	78.0	85.3	89.2
130°	77.1	78.0	77.1	77.4	84.3	87.9
132.5°	75.3	77.2	75.9	77.4	82.2	85.1
135°	74.8	76.3	74.8	76.6	80.5	82.8
137.5°	74.1	75.2	74.1	75.1	78.7	79.9
140°	72.3	73.5	73.6	73.9	77.1	77.4
142.5°	71.8	72.9	71.3	72.3	74.8	74.8
145°	69.5	71.2	70.0	69.5	72.8	71.6
147.5°	69.0	70.3	68.2	68.2	70.7	70.0
150°	66.7	68.2	66.4	66.1	68.4	67.4
152.5°	65.4	66.8	64.7	65.2	66.7	65.6
155°	62.4	64.8	62.6	62.6	64.4	63.3
157.5°	60.1	62.6	60.8	60.8	62.1	61.3
160°	56.7	60.0	59.7	59.2	59.0	59.2
162.5°	54.4	57.6	57.4	56.9	56.7	56.7
165°	51.1	54.4	54.2	54.2	55.7	54.9
167.5°	48.2	52.0	52.8	52.3	53.4	52.6
170°	48.0	50.7	50.5	50.0	51.4	50.0
172.5°	47.7	51.1	51.6	50.0	51.1	49.8
175°	46.8	48.1	49.1	49.1	49.6	48.2
177.5°	48.8	49.1	49.3	49.1	49.3	49.6
180°	50.4	50.4	50.4	50.4	50.4	50.4

(END OF REPORT)