

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: 20060

Luminaire Tested: **691-CF2/32**

Issue Date: 3/3/2020

Test Information

Test Method: LM-66-11
Report Number: 20060
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: SHAPER
Catalog Number: 691-CF2/32
Description: INTERIOR WALL MOUNT LUMINAIRE WITH WHITE BACK AND COPPER BOWL
INTERIOR WITH NO LENS
Light Source: TWO SYLVANIA 32 WATT CPFL LAMPS

CF32DT/E/841. LUMEN RATING = 4800 LMS.

Ballast/Driver: -

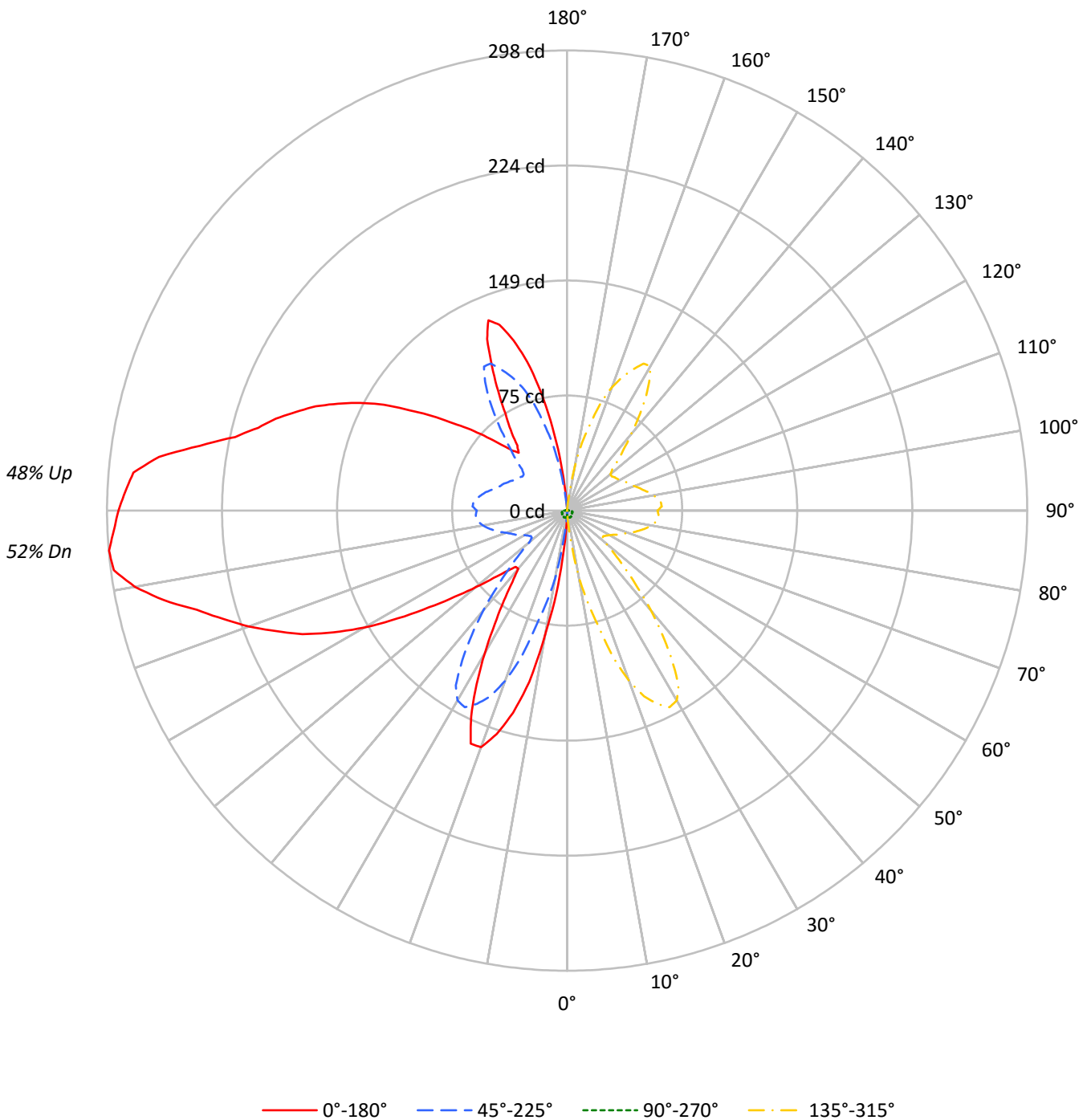
Summary

Lumens per Lamp: 4800 (1 lamp)
Luminaire Lumens: 515.8 lumens
Efficiency: 10.7%
Efficacy: 8.7 lumens/watt
Spacing Criteria (0/90/45): 9.17 / 2.22 / 4.24
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: General Diffuse

Input Watts (W): 59
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						
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10			
RCR																							
0	12	12	12	12	11	11	11	11	9	9	9	8	8	8	6	6	6	6	6	6	6	6	6
1	10	9	9	8	9	8	8	7	7	7	6	6	5	5	5	4	4	5	4	4	5	4	4
2	9	8	7	6	8	7	6	6	6	5	5	5	4	4	4	3	3	4	3	3	4	3	3
3	8	7	6	5	7	6	5	5	5	4	4	4	4	3	3	3	2	3	3	2	3	3	2
4	7	6	5	4	7	5	4	4	4	4	3	4	3	3	3	2	2	3	2	2	3	2	2
5	7	5	4	3	6	5	4	3	4	3	3	3	3	2	2	2	2	2	2	2	2	2	2
6	6	5	4	3	6	4	3	3	4	3	2	3	2	2	2	2	1	2	2	1	2	2	1
7	6	4	3	3	5	4	3	2	3	2	2	3	2	2	2	2	1	2	2	1	2	2	1
8	5	4	3	2	5	3	3	2	3	2	2	2	2	1	2	1	1	2	1	1	2	1	1
9	5	3	3	2	4	3	2	2	3	2	2	2	2	1	2	1	1	2	1	1	2	1	1
10	5	3	2	2	4	3	2	2	2	2	1	2	1	1	2	1	1	2	1	1	2	1	1

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	Luminaire represents a point source (luminous area is zero).			
5°	No luminance values can be calculated.			
10°				
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°	1.1	0.2	0.0
10°-20°	10.9	2.1	0.2
20°-30°	24.6	4.8	0.5
30°-40°	27.0	5.2	0.6
40°-50°	23.4	4.5	0.5
50°-60°	26.9	5.2	0.6
60°-70°	37.3	7.2	0.8
70°-80°	52.8	10.2	1.1
80°-90°	63.4	12.3	1.3
90°-100°	63.4	12.3	1.3
100°-110°	49.6	9.6	1.0
110°-120°	36.9	7.2	0.8
120°-130°	28.1	5.4	0.6
130°-140°	22.3	4.3	0.5
140°-150°	21.3	4.1	0.4
150°-160°	18.4	3.6	0.4
160°-170°	7.8	1.5	0.2
170°-180°	0.6	0.1	0.0
0°-30°	36.7	7.1	0.8
0°-40°	63.7	12.3	1.3
0°-60°	114.0	22.1	2.4
0°-90°	267.4	51.9	5.6
90°-120°	149.9	29.1	3.1
90°-150°	221.6	43.0	4.6
90°-180°	248.0	48.1	5.2
0°-180°	515.8	100.0	10.7

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3	3	3	3	3	
5°	1	5	26	5	1	0
15°	0	5	136	5	0	0
25°	0	5	147	5	0	0
35°	0	4	71	4	0	0
45°	0	4	56	4	0	0
55°	0	4	109	4	0	0
65°	0	4	189	4	0	0
75°	0	4	248	4	0	0
85°	0	3	298	3	0	0
90°	0	3	291	3	0	0
95°	0	1	282	1	0	0
105°	0	1	207	1	0	0
115°	0	1	164	1	0	0
125°	0	1	107	1	0	0
135°	0	0	60	0	0	0
145°	0	0	64	0	0	0
155°	0	0	123	0	0	0
165°	0	0	100	0	0	0
175°	0	0	7	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
2.5°	1.1	1.2	0.7	2.6	4.8	3.9	2.5	5.7	7.4	5.7	2.5
5°	0.7	0.7	1.1	3.3	4.6	4.4	9.0	19.1	26.1	19.1	9.0
7.5°	0.4	0.3	0.9	3.2	4.3	5.3	21.3	45.9	54.4	45.9	21.3
10°	0.0	0.9	0.7	3.0	4.9	9.2	43.9	69.5	80.9	69.5	43.9
12.5°	0.0	0.0	0.0	2.8	4.4	14.3	59.9	96.4	113.7	96.4	59.9
15°	0.0	0.1	0.3	2.9	4.6	25.7	76.4	122.7	135.6	122.7	76.4
17.5°	0.0	0.0	0.2	2.7	4.5	37.6	100.1	140.3	151.7	140.3	100.1
20°	0.0	0.0	0.0	2.6	4.6	47.6	117.2	151.5	163.1	151.5	117.2
22.5°	0.0	0.0	0.0	2.4	4.9	55.6	130.2	161.1	163.3	161.1	130.2
25°	0.0	0.0	0.0	2.4	4.8	62.3	138.0	155.8	147.1	155.8	138.0
27.5°	0.0	0.0	0.0	1.5	4.5	71.8	143.6	138.3	126.9	138.3	143.6
30°	0.0	0.0	0.0	1.9	4.8	83.9	142.0	118.6	106.8	118.6	142.0
32.5°	0.0	0.0	0.0	1.9	4.6	96.8	134.2	99.7	87.1	99.7	134.2
35°	0.0	0.0	0.0	1.9	4.5	105.9	118.4	82.5	71.4	82.5	118.4
37.5°	0.0	0.0	0.0	1.3	4.7	110.8	101.2	66.8	58.0	66.8	101.2
40°	0.0	0.0	0.0	1.5	4.6	112.7	84.4	54.6	49.2	54.6	84.4
42.5°	0.0	0.0	0.0	1.5	4.5	110.1	67.4	44.5	49.4	44.5	67.4
45°	0.0	0.0	0.0	1.3	4.5	105.1	53.4	44.2	55.5	44.2	53.4
47.5°	0.0	0.0	0.0	0.8	4.4	98.2	41.8	48.6	64.6	48.6	41.8
50°	0.0	0.0	0.0	1.2	4.0	93.3	31.8	54.8	77.0	54.8	31.8
52.5°	0.0	0.0	0.0	1.2	3.9	86.1	28.8	62.5	91.7	62.5	28.8
55°	0.0	0.0	0.0	0.3	3.9	78.8	28.8	72.0	109.1	72.0	28.8
57.5°	0.0	0.0	0.0	0.3	4.0	69.5	30.2	80.6	129.9	80.6	30.2
60°	0.0	0.0	0.0	0.7	3.4	58.8	31.8	92.3	151.4	92.3	31.8
62.5°	0.0	0.0	0.0	0.5	3.6	48.9	33.9	105.0	170.7	105.0	33.9
65°	0.0	0.0	0.0	0.8	3.6	41.1	36.9	122.1	189.2	122.1	36.9
67.5°	0.0	0.0	0.0	0.7	3.7	35.2	39.1	139.2	203.9	139.2	39.1
70°	0.0	0.0	0.0	0.5	3.6	30.7	42.0	156.7	219.5	156.7	42.0
72.5°	0.0	0.0	0.0	0.6	3.6	28.8	45.8	175.3	233.4	175.3	45.8
75°	0.0	0.0	0.0	0.5	3.6	27.5	49.2	192.6	248.3	192.6	49.2
77.5°	0.0	0.0	0.0	0.3	3.4	28.0	52.5	210.3	267.7	210.3	52.5
80°	0.0	0.0	0.0	0.2	3.5	28.3	55.4	221.9	284.2	221.9	55.4
82.5°	0.0	0.0	0.0	0.4	3.0	30.0	57.6	229.2	296.1	229.2	57.6
85°	0.0	0.0	0.0	0.3	3.0	30.7	59.2	229.4	297.8	229.4	59.2
87.5°	0.0	0.0	0.0	0.0	3.2	32.5	59.2	225.4	293.8	225.4	59.2
90°	0.0	0.0	0.0	0.0	3.2	33.4	58.5	215.6	290.6	215.6	58.5
92.5°	0.0	0.0	0.0	0.0	0.8	49.8	61.3	227.8	286.4	227.8	61.3
95°	0.0	0.0	0.0	0.0	0.8	47.5	60.9	225.1	282.0	225.1	60.9
97.5°	0.0	0.0	0.0	0.0	0.6	46.1	59.3	218.6	266.5	218.6	59.3
100°	0.0	0.0	0.0	0.0	0.8	44.1	56.7	206.6	241.5	206.6	56.7
102.5°	0.0	0.0	0.0	0.0	0.5	43.3	54.3	191.1	220.2	191.1	54.3
105°	0.0	0.0	0.0	0.0	0.9	41.5	51.1	174.8	207.2	174.8	51.1
107.5°	0.0	0.0	0.0	0.0	0.5	42.0	48.9	159.5	197.8	159.5	48.9
110°	0.0	0.0	0.0	0.0	0.7	42.7	46.2	145.5	186.8	145.5	46.2



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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°	0.0	0.0	0.0	0.0	0.6	45.4	44.9	132.3	176.3	132.3	44.9
115°	0.0	0.0	0.0	0.0	0.8	48.7	42.9	121.3	163.7	121.3	42.9
117.5°	0.0	0.0	0.0	0.0	0.7	53.3	41.4	111.0	151.0	111.0	41.4
120°	0.0	0.0	0.0	0.0	0.9	58.7	39.3	102.7	137.0	102.7	39.3
122.5°	0.0	0.0	0.0	0.0	0.8	65.4	38.3	94.1	120.8	94.1	38.3
125°	0.0	0.0	0.0	0.0	0.7	71.8	37.6	86.2	106.7	86.2	37.6
127.5°	0.0	0.0	0.0	0.0	0.8	79.1	36.3	77.2	92.6	77.2	36.3
130°	0.0	0.0	0.0	0.0	0.7	86.3	36.7	69.2	81.4	69.2	36.7
132.5°	0.0	0.0	0.0	0.0	0.7	93.6	39.7	60.5	70.3	60.5	39.7
135°	0.0	0.0	0.0	0.0	0.3	98.2	47.2	53.7	60.2	53.7	47.2
137.5°	0.0	0.0	0.0	0.0	0.1	99.7	54.6	48.0	52.8	48.0	54.6
140°	0.0	0.0	0.0	0.0	0.3	98.6	64.4	48.2	48.8	48.2	64.4
142.5°	0.0	0.0	0.0	0.0	0.3	95.5	75.9	55.2	53.0	55.2	75.9
145°	0.0	0.0	0.0	0.0	0.1	90.8	88.0	62.4	63.8	62.4	88.0
147.5°	0.0	0.0	0.0	0.0	0.3	82.7	99.0	73.0	74.2	73.0	99.0
150°	0.0	0.0	0.0	0.0	0.1	73.5	107.8	83.5	89.5	83.5	107.8
152.5°	0.0	0.0	0.0	0.0	0.6	63.1	107.3	95.9	105.3	95.9	107.3
155°	0.0	0.0	0.0	0.0	0.3	56.8	100.8	108.7	122.6	108.7	100.8
157.5°	0.0	0.0	0.0	0.0	0.5	50.3	93.6	110.7	133.4	110.7	93.6
160°	0.0	0.0	0.0	0.0	0.2	42.8	84.9	102.2	128.0	102.2	84.9
162.5°	0.0	0.0	0.0	0.0	0.0	37.0	73.9	93.4	115.5	93.4	73.9
165°	0.0	0.0	0.0	0.0	0.1	24.7	58.2	81.9	99.8	81.9	58.2
167.5°	0.0	0.0	0.0	0.0	0.2	12.5	45.3	61.3	78.7	61.3	45.3
170°	0.0	0.0	0.0	0.0	0.2	7.6	29.4	43.7	54.3	43.7	29.4
172.5°	0.0	0.0	0.0	0.1	0.4	2.7	11.4	22.5	31.0	22.5	11.4
175°	0.0	0.0	0.0	0.1	0.2	1.2	3.5	5.8	7.3	5.8	3.5
177.5°	0.0	0.0	0.1	0.0	0.2	0.0	0.9	0.2	1.0	0.2	0.9
180°	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2.6	2.6	2.6	2.6	2.6	2.6
2.5°	3.9	4.8	2.6	0.7	1.2	1.1
5°	4.4	4.6	3.3	1.1	0.7	0.7
7.5°	5.3	4.3	3.2	0.9	0.3	0.4
10°	9.2	4.9	3.0	0.7	0.9	0.0
12.5°	14.3	4.4	2.8	0.0	0.0	0.0
15°	25.7	4.6	2.9	0.3	0.1	0.0
17.5°	37.6	4.5	2.7	0.2	0.0	0.0
20°	47.6	4.6	2.6	0.0	0.0	0.0
22.5°	55.6	4.9	2.4	0.0	0.0	0.0
25°	62.3	4.8	2.4	0.0	0.0	0.0
27.5°	71.8	4.5	1.5	0.0	0.0	0.0
30°	83.9	4.8	1.9	0.0	0.0	0.0
32.5°	96.8	4.6	1.9	0.0	0.0	0.0
35°	105.9	4.5	1.9	0.0	0.0	0.0
37.5°	110.8	4.7	1.3	0.0	0.0	0.0
40°	112.7	4.6	1.5	0.0	0.0	0.0
42.5°	110.1	4.5	1.5	0.0	0.0	0.0
45°	105.1	4.5	1.3	0.0	0.0	0.0
47.5°	98.2	4.4	0.8	0.0	0.0	0.0
50°	93.3	4.0	1.2	0.0	0.0	0.0
52.5°	86.1	3.9	1.2	0.0	0.0	0.0
55°	78.8	3.9	0.3	0.0	0.0	0.0
57.5°	69.5	4.0	0.3	0.0	0.0	0.0
60°	58.8	3.4	0.7	0.0	0.0	0.0
62.5°	48.9	3.6	0.5	0.0	0.0	0.0
65°	41.1	3.6	0.8	0.0	0.0	0.0
67.5°	35.2	3.7	0.7	0.0	0.0	0.0
70°	30.7	3.6	0.5	0.0	0.0	0.0
72.5°	28.8	3.6	0.6	0.0	0.0	0.0
75°	27.5	3.6	0.5	0.0	0.0	0.0
77.5°	28.0	3.4	0.3	0.0	0.0	0.0
80°	28.3	3.5	0.2	0.0	0.0	0.0
82.5°	30.0	3.0	0.4	0.0	0.0	0.0
85°	30.7	3.0	0.3	0.0	0.0	0.0
87.5°	32.5	3.2	0.0	0.0	0.0	0.0
90°	33.4	3.2	0.0	0.0	0.0	0.0
92.5°	49.8	0.8	0.0	0.0	0.0	0.0
95°	47.5	0.8	0.0	0.0	0.0	0.0
97.5°	46.1	0.6	0.0	0.0	0.0	0.0
100°	44.1	0.8	0.0	0.0	0.0	0.0
102.5°	43.3	0.5	0.0	0.0	0.0	0.0
105°	41.5	0.9	0.0	0.0	0.0	0.0
107.5°	42.0	0.5	0.0	0.0	0.0	0.0
110°	42.7	0.7	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	45.4	0.6	0.0	0.0	0.0	0.0
115°	48.7	0.8	0.0	0.0	0.0	0.0
117.5°	53.3	0.7	0.0	0.0	0.0	0.0
120°	58.7	0.9	0.0	0.0	0.0	0.0
122.5°	65.4	0.8	0.0	0.0	0.0	0.0
125°	71.8	0.7	0.0	0.0	0.0	0.0
127.5°	79.1	0.8	0.0	0.0	0.0	0.0
130°	86.3	0.7	0.0	0.0	0.0	0.0
132.5°	93.6	0.7	0.0	0.0	0.0	0.0
135°	98.2	0.3	0.0	0.0	0.0	0.0
137.5°	99.7	0.1	0.0	0.0	0.0	0.0
140°	98.6	0.3	0.0	0.0	0.0	0.0
142.5°	95.5	0.3	0.0	0.0	0.0	0.0
145°	90.8	0.1	0.0	0.0	0.0	0.0
147.5°	82.7	0.3	0.0	0.0	0.0	0.0
150°	73.5	0.1	0.0	0.0	0.0	0.0
152.5°	63.1	0.6	0.0	0.0	0.0	0.0
155°	56.8	0.3	0.0	0.0	0.0	0.0
157.5°	50.3	0.5	0.0	0.0	0.0	0.0
160°	42.8	0.2	0.0	0.0	0.0	0.0
162.5°	37.0	0.0	0.0	0.0	0.0	0.0
165°	24.7	0.1	0.0	0.0	0.0	0.0
167.5°	12.5	0.2	0.0	0.0	0.0	0.0
170°	7.6	0.2	0.0	0.0	0.0	0.0
172.5°	2.7	0.4	0.1	0.0	0.0	0.0
175°	1.2	0.2	0.1	0.0	0.0	0.0
177.5°	0.0	0.2	0.0	0.1	0.0	0.0
180°	0.1	0.1	0.1	0.1	0.1	0.1

(END OF REPORT)