

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P392506

Luminaire Tested: **MWL-2-22-17-UNV-L935-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392506  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-25 &  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-2-22-17-UNV-L935-EDD  
Description: MWL 2FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

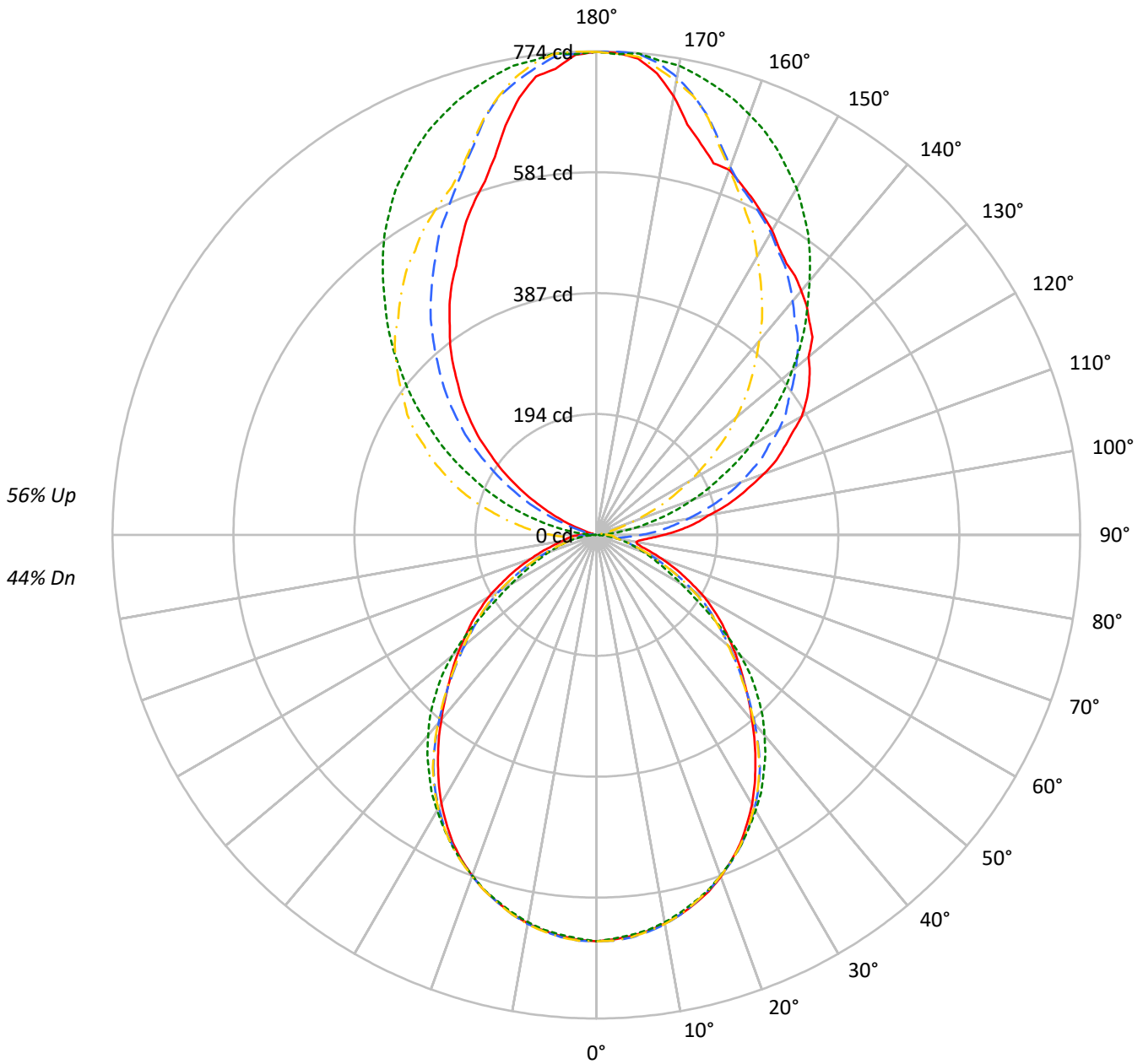
Lumens per Lamp: N/A  
Luminaire Lumens: 3319.6 lumens  
Efficiency: N/A  
Efficacy: 86.0 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 2' x H: 0.42')  
CIE Type: General Diffuse

Input Watts (W): 38.582  
Input Voltage (V): NR  
Input Current (Ain): 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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44				
1	97	92	89	85	88	85	82	79	71	68	66	57	56	54	45	44	43	38				
2	88	81	75	70	81	75	69	65	62	59	55	51	48	46	40	39	37	32				
3	81	72	65	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28				
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	32	30	28	24				
5	68	57	49	43	62	52	45	40	44	39	35	37	33	30	29	27	24	21				
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19				
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	19	17				
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	17	15				
9	50	38	31	26	46	36	29	25	30	25	22	25	22	19	21	18	16	14				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	19	16	14	12				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	8401	8401	8401	8401
5°	8207	7660	8207	7660
10°	7989	7019	7989	7019
15°	7733	6408	7712	6408
20°	7439	5848	7418	5848
25°	7078	5324	7059	5324
30°	6633	4817	6604	4817
35°	6102	4322	6080	4322
40°	5563	3834	5533	3834
45°	5057	3332	5031	3332
50°	4631	2758	4606	2758
55°	4233	2042	4212	2042
60°	3793	1484	3785	1484
65°	3224	1097	3224	1097
70°	2652	818	2666	818
75°	2139	578	2184	578
80°	2210	378	1855	378
85°	3423	166	1867	166



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.1	1.8
10°-20°	171.7	5.2
20°-30°	251.2	7.6
30°-40°	283.6	8.5
40°-50°	263.3	7.9
50°-60°	206.9	6.2
60°-70°	130.8	3.9
70°-80°	65.5	2.0
80°-90°	41.4	1.2
90°-100°	62.1	1.9
100°-110°	119.1	3.6
110°-120°	205.3	6.2
120°-130°	278.8	8.4
130°-140°	318.0	9.6
140°-150°	317.5	9.6
150°-160°	276.5	8.3
160°-170°	194.4	5.9
170°-180°	72.4	2.2
0°-30°	484.1	14.6
0°-40°	767.7	23.1
0°-60°	1237.8	37.3
0°-90°	1475.5	44.4
90°-120°	386.5	11.6
90°-150°	1300.7	39.2
90°-180°	1844.0	55.5
0°-180°	3319.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	650	650	650	650	650	
5°	644	642	644	642	644	61
15°	611	608	609	608	611	172
25°	545	548	543	548	545	250
35°	443	466	442	466	443	277
45°	334	365	333	365	334	259
55°	244	220	243	220	244	218
65°	153	113	153	113	153	152
75°	76	55	78	55	76	85
85°	78	14	43	14	78	61
90°	107	1	26	1	107	59
95°	146	22	17	22	146	127
105°	234	108	5	108	234	247
115°	331	221	76	221	331	329
125°	415	346	188	346	415	371
135°	482	472	303	472	482	372
145°	530	590	409	590	530	334
155°	592	682	514	682	592	273
165°	648	742	626	742	648	184
175°	765	774	749	774	765	71
180°	773	773	773	773	773	



TEST NUMBER: P392506

CATALOG NUMBER: MWL-2-22-17-UNV-L935-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4	650.4
2.5°	647.9	649.0	650.0	648.1	646.5	647.5	650.0	649.0	648.5	649.0	650.0
5°	644.5	645.6	646.7	644.2	642.5	644.2	646.2	645.6	644.5	645.6	646.2
7.5°	639.2	640.4	640.4	639.2	637.5	638.7	639.8	639.8	639.2	639.8	639.8
10°	631.5	632.9	632.9	631.2	629.5	630.6	632.2	631.7	631.5	631.7	632.2
12.5°	622.5	622.8	622.2	620.6	619.2	620.6	622.2	621.7	621.5	621.7	622.2
15°	610.6	610.3	609.7	608.9	607.6	608.4	609.2	609.2	608.9	609.2	609.2
17.5°	598.1	597.0	596.4	596.7	595.9	596.7	595.9	596.4	596.4	596.4	595.9
20°	582.2	582.5	581.4	581.7	580.3	581.2	580.9	581.4	580.6	581.4	580.9
22.5°	564.1	564.9	565.5	565.0	564.4	564.4	565.0	563.8	563.0	563.8	565.0
25°	544.9	545.8	547.8	547.5	547.8	546.9	546.6	544.1	543.4	544.1	546.6
27.5°	521.5	524.9	527.7	528.8	528.6	528.4	526.6	523.3	520.0	523.3	526.6
30°	498.2	500.7	505.7	510.2	509.4	509.1	504.1	499.1	496.0	499.1	504.1
32.5°	471.5	474.9	482.4	488.5	490.0	487.5	480.8	472.7	469.3	472.7	480.8
35°	443.4	445.2	456.0	464.3	466.0	462.7	454.3	443.4	441.8	443.4	454.3
37.5°	415.9	415.1	425.9	440.9	444.0	439.3	424.3	413.4	414.3	413.4	424.3
40°	387.6	385.9	394.3	413.7	418.2	412.6	392.1	383.7	385.5	383.7	392.1
42.5°	360.9	359.2	362.8	385.4	394.0	384.2	361.2	357.1	358.7	357.1	361.2
45°	334.5	332.0	332.7	352.8	364.8	351.7	330.6	330.3	332.8	330.3	330.6
47.5°	311.1	306.9	304.4	318.9	336.4	318.3	302.3	305.3	309.5	305.3	302.3
50°	287.7	283.5	276.9	287.3	300.8	286.1	274.7	281.4	286.1	281.4	274.7
52.5°	264.4	261.9	252.2	257.2	261.6	256.1	250.5	259.7	262.8	259.7	250.5
55°	243.9	240.5	228.8	226.6	220.2	225.5	227.2	238.9	242.7	238.9	227.2
57.5°	221.3	219.7	205.5	195.7	184.4	194.7	203.8	218.0	220.2	218.0	203.8
60°	199.8	195.7	179.1	165.2	156.9	164.6	177.9	194.7	199.4	194.7	177.9
62.5°	174.8	172.3	154.0	136.9	132.9	136.3	152.9	171.3	174.4	171.3	152.9
65°	152.6	147.6	129.3	114.2	112.9	113.7	128.7	147.0	152.6	147.0	128.7
67.5°	131.9	123.5	107.6	94.5	95.4	94.5	107.0	122.9	131.9	122.9	107.0
70°	110.4	101.2	88.7	77.8	81.2	77.8	88.7	101.7	111.0	101.7	88.7
72.5°	92.8	82.0	72.0	63.7	66.5	63.2	72.0	82.6	94.0	82.6	72.0
75°	76.2	65.3	56.5	50.7	54.8	50.7	57.0	65.9	77.8	65.9	57.0
77.5°	67.1	55.8	43.1	40.6	43.9	40.6	43.7	54.2	65.0	54.2	43.7
80°	64.8	54.3	34.7	30.6	33.9	30.6	33.7	45.6	54.4	45.6	33.7
82.5°	68.7	60.5	36.3	21.4	23.1	21.4	29.7	40.8	48.0	40.8	29.7
85°	78.1	71.0	44.0	18.0	13.9	16.9	28.3	37.7	42.6	37.7	28.3
87.5°	91.1	87.0	55.7	22.9	3.4	15.3	24.6	34.6	34.9	34.6	24.6
90°	107.3	104.3	72.1	31.1	0.6	10.3	18.0	27.4	25.5	27.4	18.0
92.5°	127.1	123.1	89.7	42.9	8.8	5.3	15.0	22.2	20.3	22.2	15.0
95°	145.9	143.5	109.1	57.6	21.8	3.0	10.9	16.9	16.7	16.9	10.9
97.5°	165.8	163.0	128.0	76.4	38.7	6.5	7.4	13.0	13.0	13.0	7.4
100°	182.8	181.6	149.3	99.8	59.5	18.0	4.7	10.2	11.0	10.2	4.7
102.5°	210.6	202.4	171.6	122.2	81.8	33.8	9.0	6.0	7.7	6.0	9.0
105°	234.4	226.7	198.3	146.5	108.3	55.9	22.1	7.3	4.7	7.3	22.1
107.5°	257.7	252.4	222.3	170.5	135.6	80.5	40.6	21.1	13.4	21.1	40.6
110°	285.0	278.5	245.8	194.5	164.0	106.7	61.9	38.5	29.8	38.5	61.9



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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°	311.2	306.3	267.6	219.6	193.4	135.0	88.1	60.3	52.1	60.3	88.1
115°	331.4	328.7	292.6	243.0	220.6	167.1	117.0	85.9	76.1	85.9	117.0
117.5°	352.8	352.1	311.2	267.1	253.4	196.1	143.8	111.6	101.2	111.6	143.8
120°	379.4	375.1	336.9	291.1	284.5	226.7	173.2	141.1	130.6	141.1	173.2
122.5°	398.1	395.3	358.7	313.9	313.9	257.7	201.6	169.5	158.5	169.5	201.6
125°	414.9	413.8	375.1	336.9	345.6	286.7	233.2	200.5	188.5	200.5	233.2
127.5°	430.2	431.8	396.3	362.0	377.9	316.2	264.3	228.3	215.7	228.3	264.3
130°	443.3	448.7	416.5	384.9	408.3	348.3	292.2	256.1	247.9	256.1	292.2
132.5°	468.9	465.6	437.2	408.3	441.0	377.9	321.6	284.0	274.7	284.0	321.6
135°	482.0	483.1	455.3	428.5	471.6	407.3	349.5	312.4	303.1	312.4	349.5
137.5°	497.8	494.5	469.4	453.1	500.0	435.7	376.7	342.4	327.6	342.4	376.7
140°	510.1	509.5	488.7	474.9	530.6	463.4	405.4	370.4	356.8	370.4	405.4
142.5°	522.1	525.4	507.4	498.8	561.1	492.9	435.4	397.2	384.1	397.2	435.4
145°	530.3	537.3	525.9	529.7	590.0	526.5	461.6	422.8	408.6	422.8	461.6
147.5°	543.9	553.2	539.6	551.0	615.1	555.4	487.7	449.6	437.0	449.6	487.7
150°	562.4	566.8	558.6	580.5	640.7	587.5	514.5	475.2	462.7	475.2	514.5
152.5°	577.2	582.6	573.4	612.7	660.9	617.0	543.9	500.3	485.6	500.3	543.9
155°	592.5	594.6	588.2	643.8	682.1	646.0	567.4	528.1	513.9	528.1	567.4
157.5°	606.6	611.0	603.4	667.2	700.8	671.1	594.1	556.0	543.4	556.0	594.1
160°	621.9	621.9	626.3	693.7	716.0	692.0	622.5	586.4	569.0	586.4	622.5
162.5°	623.6	634.0	657.4	712.8	730.7	711.1	653.0	608.3	593.0	608.3	653.0
165°	647.5	656.8	692.3	729.6	742.2	728.0	690.7	644.2	626.3	644.2	690.7
167.5°	672.6	692.3	719.8	748.7	753.1	743.8	718.8	687.4	671.1	687.4	718.8
170°	712.8	730.4	743.8	756.7	762.6	757.2	736.7	721.8	710.5	721.8	736.7
172.5°	744.9	755.8	761.3	769.8	765.9	763.8	753.1	745.5	740.0	745.5	753.1
175°	765.0	767.3	773.0	770.3	773.6	767.5	768.2	771.1	748.7	771.1	768.2
177.5°	772.2	776.0	774.1	769.3	769.8	768.7	770.8	772.2	768.9	772.2	770.8
180°	773.0	773.0	773.0	773.0	773.0	773.0	773.0	773.0	773.0	773.0	773.0



TEST NUMBER: P392506

CATALOG NUMBER: MWL-2-22-17-UNV-L935-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	650.4	650.4	650.4	650.4	650.4	650.4
2.5°	647.5	646.5	648.1	650.0	649.0	647.9
5°	644.2	642.5	644.2	646.7	645.6	644.5
7.5°	638.7	637.5	639.2	640.4	640.4	639.2
10°	630.6	629.5	631.2	632.9	632.9	631.5
12.5°	620.6	619.2	620.6	622.2	622.8	622.5
15°	608.4	607.6	608.9	609.7	610.3	610.6
17.5°	596.7	595.9	596.7	596.4	597.0	598.1
20°	581.2	580.3	581.7	581.4	582.5	582.2
22.5°	564.4	564.4	565.0	565.5	564.9	564.1
25°	546.9	547.8	547.5	547.8	545.8	544.9
27.5°	528.4	528.6	528.8	527.7	524.9	521.5
30°	509.1	509.4	510.2	505.7	500.7	498.2
32.5°	487.5	490.0	488.5	482.4	474.9	471.5
35°	462.7	466.0	464.3	456.0	445.2	443.4
37.5°	439.3	444.0	440.9	425.9	415.1	415.9
40°	412.6	418.2	413.7	394.3	385.9	387.6
42.5°	384.2	394.0	385.4	362.8	359.2	360.9
45°	351.7	364.8	352.8	332.7	332.0	334.5
47.5°	318.3	336.4	318.9	304.4	306.9	311.1
50°	286.1	300.8	287.3	276.9	283.5	287.7
52.5°	256.1	261.6	257.2	252.2	261.9	264.4
55°	225.5	220.2	226.6	228.8	240.5	243.9
57.5°	194.7	184.4	195.7	205.5	219.7	221.3
60°	164.6	156.9	165.2	179.1	195.7	199.8
62.5°	136.3	132.9	136.9	154.0	172.3	174.8
65°	113.7	112.9	114.2	129.3	147.6	152.6
67.5°	94.5	95.4	94.5	107.6	123.5	131.9
70°	77.8	81.2	77.8	88.7	101.2	110.4
72.5°	63.2	66.5	63.7	72.0	82.0	92.8
75°	50.7	54.8	50.7	56.5	65.3	76.2
77.5°	40.6	43.9	40.6	43.1	55.8	67.1
80°	30.6	33.9	30.6	34.7	54.3	64.8
82.5°	21.4	23.1	21.4	36.3	60.5	68.7
85°	16.9	13.9	18.0	44.0	71.0	78.1
87.5°	15.3	3.4	22.9	55.7	87.0	91.1
90°	10.3	0.6	31.1	72.1	104.3	107.3
92.5°	5.3	8.8	42.9	89.7	123.1	127.1
95°	3.0	21.8	57.6	109.1	143.5	145.9
97.5°	6.5	38.7	76.4	128.0	163.0	165.8
100°	18.0	59.5	99.8	149.3	181.6	182.8
102.5°	33.8	81.8	122.2	171.6	202.4	210.6
105°	55.9	108.3	146.5	198.3	226.7	234.4
107.5°	80.5	135.6	170.5	222.3	252.4	257.7
110°	106.7	164.0	194.5	245.8	278.5	285.0





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	135.0	193.4	219.6	267.6	306.3	311.2
115°	167.1	220.6	243.0	292.6	328.7	331.4
117.5°	196.1	253.4	267.1	311.2	352.1	352.8
120°	226.7	284.5	291.1	336.9	375.1	379.4
122.5°	257.7	313.9	313.9	358.7	395.3	398.1
125°	286.7	345.6	336.9	375.1	413.8	414.9
127.5°	316.2	377.9	362.0	396.3	431.8	430.2
130°	348.3	408.3	384.9	416.5	448.7	443.3
132.5°	377.9	441.0	408.3	437.2	465.6	468.9
135°	407.3	471.6	428.5	455.3	483.1	482.0
137.5°	435.7	500.0	453.1	469.4	494.5	497.8
140°	463.4	530.6	474.9	488.7	509.5	510.1
142.5°	492.9	561.1	498.8	507.4	525.4	522.1
145°	526.5	590.0	529.7	525.9	537.3	530.3
147.5°	555.4	615.1	551.0	539.6	553.2	543.9
150°	587.5	640.7	580.5	558.6	566.8	562.4
152.5°	617.0	660.9	612.7	573.4	582.6	577.2
155°	646.0	682.1	643.8	588.2	594.6	592.5
157.5°	671.1	700.8	667.2	603.4	611.0	606.6
160°	692.0	716.0	693.7	626.3	621.9	621.9
162.5°	711.1	730.7	712.8	657.4	634.0	623.6
165°	728.0	742.2	729.6	692.3	656.8	647.5
167.5°	743.8	753.1	748.7	719.8	692.3	672.6
170°	757.2	762.6	756.7	743.8	730.4	712.8
172.5°	763.8	765.9	769.8	761.3	755.8	744.9
175°	767.5	773.6	770.3	773.0	767.3	765.0
177.5°	768.7	769.8	769.3	774.1	776.0	772.2
180°	773.0	773.0	773.0	773.0	773.0	773.0

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