

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: P392562

Luminaire Tested: **MWL-3-27-25-UNV-L930-EDD**

Issue Date: 3/12/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P392562  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &  
Test Lab: INNOVATION CENTER  
Issue Date: 3/12/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-3-27-25-UNV-L930-EDD  
Description: MWL 3FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

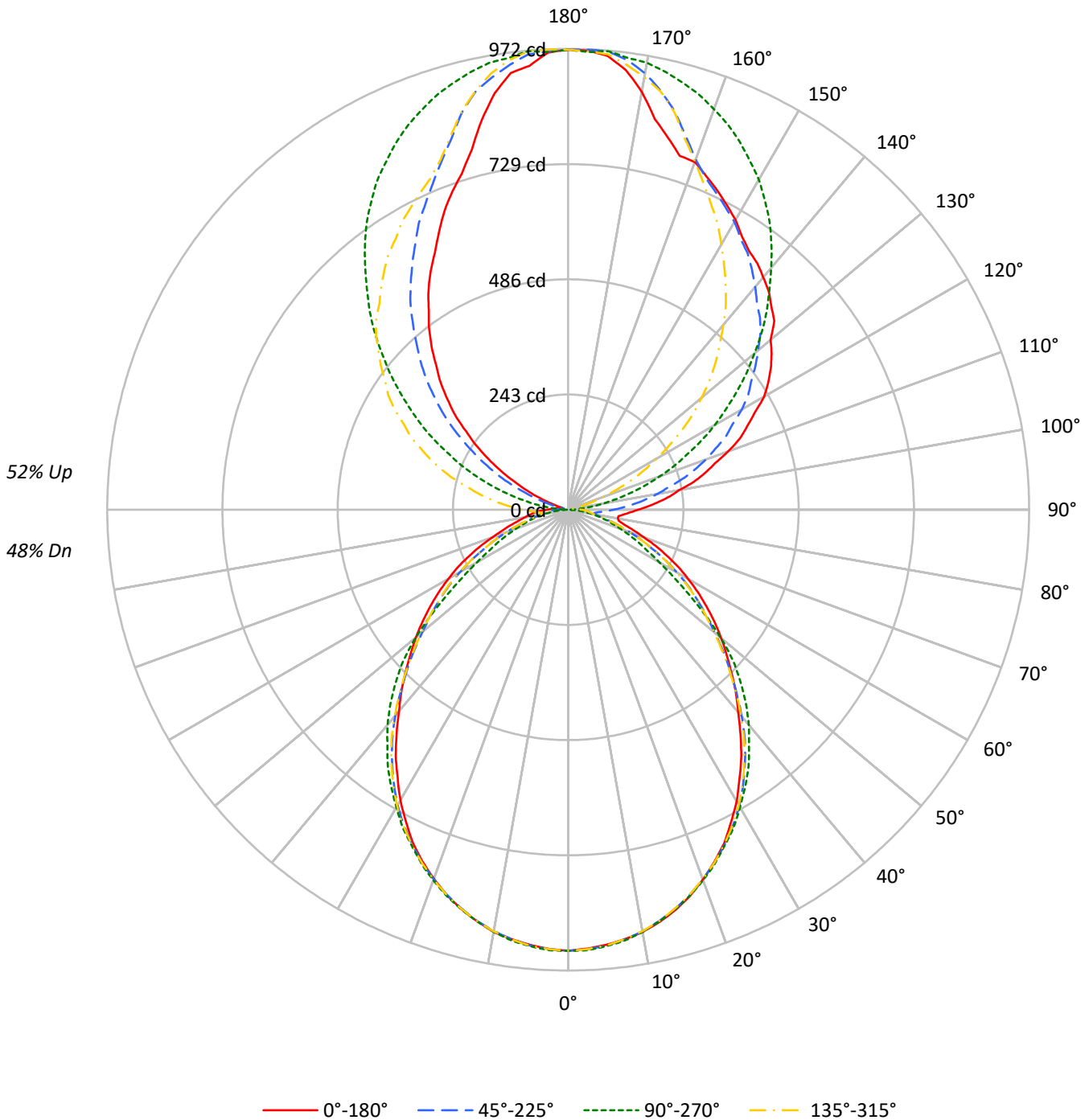
Lumens per Lamp: N/A  
Luminaire Lumens: 4453.6 lumens  
Efficiency: N/A  
Efficacy: 89.6 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')  
CIE Type: General Diffuse

Input Watts (W): 49.692  
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





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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	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	97	93	89	86	89	86	83	80	72	70	68	60	58	56	48	47	46	41
2	89	82	76	71	82	75	70	66	64	60	57	53	50	48	43	41	39	34
3	81	72	65	59	75	67	60	55	56	52	48	47	44	41	38	36	34	30
4	75	64	56	50	68	59	53	47	50	45	41	42	38	35	34	32	29	26
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23
6	63	51	43	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20
7	59	46	39	33	54	43	36	31	37	32	28	31	27	24	26	23	20	18
8	54	42	35	29	50	39	33	28	34	28	25	29	25	21	24	21	18	16
9	51	39	31	26	47	36	29	25	31	26	22	26	22	19	22	19	17	15
10	47	35	28	24	44	33	27	22	29	24	20	24	20	18	21	17	15	13

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

	0°	90°	180°	270°
0°	8010	8010	8010	8010
5°	7869	7346	7869	7346
10°	7718	6720	7718	6720
15°	7514	6133	7496	6133
20°	7242	5588	7224	5588
25°	6934	5061	6917	5061
30°	6539	4567	6514	4567
35°	6095	4098	6074	4098
40°	5613	3622	5586	3622
45°	5204	3129	5182	3129
50°	4837	2563	4813	2563
55°	4459	1909	4441	1909
60°	4051	1398	4041	1398
65°	3601	1060	3601	1060
70°	3074	781	3087	781
75°	2678	570	2724	570
80°	2951	369	2591	369
85°	4464	160	2772	160



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.5	2.0
10°-20°	245.6	5.5
20°-30°	358.5	8.0
30°-40°	404.9	9.1
40°-50°	378.8	8.5
50°-60°	299.0	6.7
60°-70°	195.5	4.4
70°-80°	101.9	2.3
80°-90°	60.9	1.4
90°-100°	82.4	1.9
100°-110°	151.0	3.4
110°-120°	257.8	5.8
120°-130°	350.1	7.9
130°-140°	399.4	9.0
140°-150°	398.4	8.9
150°-160°	346.9	7.8
160°-170°	244.0	5.5
170°-180°	90.9	2.0
0°-30°	691.6	15.5
0°-40°	1096.5	24.6
0°-60°	1774.4	39.8
0°-90°	2132.6	47.9
90°-120°	491.3	11.0
90°-150°	1639.1	36.8
90°-180°	2321.0	52.1
0°-180°	4453.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	930	930	930	930	930	
5°	921	924	921	924	921	87
15°	874	872	872	872	874	246
25°	777	781	775	781	777	356
35°	636	663	634	663	636	397
45°	487	514	485	514	487	377
55°	356	309	354	309	356	319
65°	229	164	229	164	229	228
75°	122	81	124	81	122	135
85°	117	20	73	20	117	93
90°	147	1	45	1	147	82
95°	192	28	30	28	192	167
105°	298	136	10	136	298	315
115°	417	277	96	277	417	414
125°	522	434	237	434	522	466
135°	606	592	381	592	606	468
145°	665	741	513	741	665	419
155°	743	856	645	856	743	343
165°	812	932	786	932	812	230
175°	960	971	940	971	960	90
180°	970	970	970	970	970	



TEST NUMBER: P392562

CATALOG NUMBER: MWL-3-27-25-UNV-L930-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	930.2	930.2	930.2	930.2	930.2	930.2	930.2	930.2	930.2	930.2	930.2
2.5°	926.5	929.6	927.6	929.1	930.0	928.4	927.6	929.6	927.3	929.6	927.6
5°	921.4	924.5	923.4	923.4	924.2	923.4	922.7	924.5	921.4	924.5	922.7
7.5°	913.7	915.9	914.2	915.7	916.6	915.1	913.5	915.3	913.7	915.3	913.5
10°	904.3	904.1	903.2	904.1	904.1	903.4	902.6	902.8	904.3	902.8	902.6
12.5°	890.4	888.9	888.2	889.9	889.2	889.9	888.2	887.5	889.0	887.5	888.2
15°	874.2	872.8	871.3	873.0	872.3	872.3	870.6	871.4	872.1	871.4	870.6
17.5°	853.9	852.5	851.9	853.7	853.7	853.7	851.2	851.9	851.9	851.9	851.2
20°	830.2	831.3	829.9	832.6	831.8	831.8	829.2	829.9	828.2	829.9	829.2
22.5°	804.2	805.9	806.2	808.0	808.1	807.3	805.6	804.5	802.8	804.5	805.6
25°	777.1	776.3	779.9	783.6	781.1	782.8	778.5	774.3	775.1	774.3	778.5
27.5°	743.3	748.4	751.9	756.3	755.7	755.6	750.6	746.4	741.3	746.4	750.6
30°	710.4	712.9	721.4	726.6	724.5	725.3	719.4	710.9	707.6	710.9	719.4
32.5°	672.3	677.5	686.7	695.3	694.0	694.0	684.7	674.6	669.5	674.6	684.7
35°	636.2	637.8	649.7	661.5	662.8	659.4	647.6	635.7	634.0	635.7	647.6
37.5°	596.5	598.1	611.7	626.0	626.4	623.9	609.6	596.0	594.3	596.0	609.6
40°	557.5	558.4	569.4	588.2	592.6	586.8	566.6	555.6	554.8	555.6	566.6
42.5°	523.7	517.8	525.7	547.6	554.5	546.2	523.5	515.1	521.0	515.1	523.5
45°	486.7	480.0	484.2	504.5	513.9	503.0	481.5	477.8	484.6	477.8	481.5
47.5°	452.9	444.5	443.6	458.2	471.7	457.4	440.9	442.4	450.8	442.4	440.9
50°	420.8	410.7	403.1	413.4	419.4	411.9	400.3	407.8	418.7	407.8	400.3
52.5°	388.7	378.5	366.9	369.5	362.8	368.0	364.8	375.8	386.6	375.8	364.8
55°	355.9	347.4	333.1	324.7	308.8	323.4	331.0	345.3	354.5	345.3	331.0
57.5°	324.6	317.9	300.2	281.6	262.3	280.3	298.0	315.7	323.2	315.7	298.0
60°	291.8	288.4	264.7	237.8	221.8	237.1	263.4	287.0	291.1	287.0	263.4
62.5°	262.2	256.2	230.9	199.8	189.0	199.1	229.5	254.9	261.5	254.9	229.5
65°	229.4	225.1	196.4	168.5	163.6	167.8	195.7	224.4	229.4	224.4	195.7
67.5°	199.8	191.3	167.6	138.2	138.2	138.2	167.0	190.7	199.8	190.7	167.0
70°	168.7	160.3	138.2	115.4	116.3	115.4	138.2	161.0	169.4	161.0	138.2
72.5°	144.2	131.5	112.9	94.3	97.0	93.7	112.9	132.2	145.5	132.2	112.9
75°	122.2	107.0	89.5	76.8	81.0	76.8	90.1	107.7	124.3	107.7	90.1
77.5°	109.1	88.7	70.0	59.9	64.9	59.9	70.6	86.6	106.4	86.6	70.6
80°	106.4	83.0	56.8	45.4	49.7	45.4	55.5	72.0	93.4	72.0	55.5
82.5°	106.7	87.1	54.9	32.8	34.5	32.8	46.7	62.4	80.7	62.4	46.7
85°	116.9	98.3	62.3	26.3	20.1	25.0	42.5	56.5	72.6	56.5	42.5
87.5°	130.7	116.9	76.3	31.6	5.9	22.1	37.2	51.2	60.1	51.2	37.2
90°	147.2	137.0	95.9	40.1	0.7	14.0	28.1	40.5	44.6	40.5	28.1
92.5°	169.8	159.9	116.1	56.2	11.8	9.0	22.3	33.1	35.6	33.1	22.3
95°	192.3	186.5	140.5	72.9	28.3	4.4	17.3	27.6	29.9	27.6	17.3
97.5°	216.4	211.4	164.7	96.7	49.5	9.1	13.5	23.0	24.7	23.0	13.5
100°	237.2	234.9	190.5	126.2	75.5	23.4	9.1	19.9	21.6	19.9	9.1
102.5°	271.2	260.5	215.2	154.3	103.6	43.2	11.2	13.9	16.5	13.9	11.2
105°	298.1	286.1	248.7	183.8	135.8	70.0	27.6	10.7	9.9	10.7	27.6
107.5°	324.3	317.4	278.9	213.9	170.0	100.8	50.9	27.0	17.4	27.0	50.9
110°	358.5	350.4	308.4	244.0	205.6	133.7	77.6	49.0	37.9	49.0	77.6



TEST NUMBER: P392562

CATALOG NUMBER: MWL-3-27-25-UNV-L930-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	391.4	385.2	335.8	275.4	242.6	169.3	110.5	76.3	66.1	76.3	110.5
115°	416.7	413.3	367.3	304.9	276.9	209.7	146.7	108.5	96.2	108.5	146.7
117.5°	443.5	442.8	390.6	335.0	317.9	246.0	180.2	140.7	127.7	140.7	180.2
120°	477.1	471.5	422.7	365.2	357.0	284.4	217.3	177.8	164.7	177.8	217.3
122.5°	500.3	496.9	450.1	393.9	393.9	323.4	252.9	213.3	199.6	213.3	252.9
125°	521.5	520.1	470.7	422.7	433.6	359.7	292.6	252.4	237.3	252.4	292.6
127.5°	540.6	542.7	497.4	454.2	474.1	396.8	331.7	287.3	271.5	287.3	331.7
130°	557.2	564.0	522.8	483.0	512.5	437.2	366.6	322.2	312.0	322.2	366.6
132.5°	589.3	585.2	549.6	512.5	553.5	474.1	404.4	357.1	345.5	357.1	404.4
135°	605.8	607.1	572.1	537.8	591.9	511.0	439.4	392.8	381.1	392.8	439.4
137.5°	625.6	621.5	589.1	568.6	627.5	546.7	472.7	430.5	411.9	430.5	472.7
140°	639.9	639.3	613.3	596.9	665.8	582.5	508.6	464.6	447.6	464.6	508.6
142.5°	655.1	659.1	636.6	626.1	704.2	618.6	546.2	498.3	481.7	498.3	546.2
145°	665.3	674.3	659.8	664.7	740.6	660.6	579.0	530.4	512.6	530.4	579.0
147.5°	682.5	694.2	677.0	691.4	772.0	696.8	611.9	564.0	548.2	564.0	611.9
150°	705.7	711.2	701.0	728.3	804.2	737.2	645.5	596.2	580.4	596.2	645.5
152.5°	724.2	731.1	718.6	768.0	829.5	773.4	681.7	627.6	609.2	627.6	681.7
155°	743.4	746.1	737.9	807.0	856.3	809.7	711.9	662.7	644.8	662.7	711.9
157.5°	761.3	766.7	757.1	836.4	879.6	841.2	745.4	697.5	681.8	697.5	745.4
160°	780.5	780.5	785.8	871.4	898.7	869.4	781.1	735.9	714.0	735.9	781.1
162.5°	782.5	794.7	824.9	895.5	918.0	893.4	819.4	762.4	744.1	762.4	819.4
165°	812.5	823.4	868.8	916.7	932.4	914.7	866.8	807.7	785.8	807.7	866.8
167.5°	844.0	867.9	904.4	940.7	946.2	934.5	903.0	861.7	842.0	861.7	903.0
170°	894.6	915.8	934.5	949.5	957.1	950.2	925.6	904.9	891.9	904.9	925.6
172.5°	935.0	948.7	956.4	966.1	961.2	958.4	946.2	935.7	928.8	935.7	946.2
175°	960.4	963.1	970.1	966.7	970.8	963.3	964.0	967.9	939.8	967.9	964.0
177.5°	969.3	974.1	971.5	965.3	966.1	964.6	967.4	969.3	965.2	969.3	967.4
180°	970.1	970.1	970.1	970.1	970.1	970.1	970.1	970.1	970.1	970.1	970.1



TEST NUMBER: P392562

CATALOG NUMBER: MWL-3-27-25-UNV-L930-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	930.2	930.2	930.2	930.2	930.2	930.2
2.5°	928.4	930.0	929.1	927.6	929.6	926.5
5°	923.4	924.2	923.4	923.4	924.5	921.4
7.5°	915.1	916.6	915.7	914.2	915.9	913.7
10°	903.4	904.1	904.1	903.2	904.1	904.3
12.5°	889.9	889.2	889.9	888.2	888.9	890.4
15°	872.3	872.3	873.0	871.3	872.8	874.2
17.5°	853.7	853.7	853.7	851.9	852.5	853.9
20°	831.8	831.8	832.6	829.9	831.3	830.2
22.5°	807.3	808.1	808.0	806.2	805.9	804.2
25°	782.8	781.1	783.6	779.9	776.3	777.1
27.5°	755.6	755.7	756.3	751.9	748.4	743.3
30°	725.3	724.5	726.6	721.4	712.9	710.4
32.5°	694.0	694.0	695.3	686.7	677.5	672.3
35°	659.4	662.8	661.5	649.7	637.8	636.2
37.5°	623.9	626.4	626.0	611.7	598.1	596.5
40°	586.8	592.6	588.2	569.4	558.4	557.5
42.5°	546.2	554.5	547.6	525.7	517.8	523.7
45°	503.0	513.9	504.5	484.2	480.0	486.7
47.5°	457.4	471.7	458.2	443.6	444.5	452.9
50°	411.9	419.4	413.4	403.1	410.7	420.8
52.5°	368.0	362.8	369.5	366.9	378.5	388.7
55°	323.4	308.8	324.7	333.1	347.4	355.9
57.5°	280.3	262.3	281.6	300.2	317.9	324.6
60°	237.1	221.8	237.8	264.7	288.4	291.8
62.5°	199.1	189.0	199.8	230.9	256.2	262.2
65°	167.8	163.6	168.5	196.4	225.1	229.4
67.5°	138.2	138.2	138.2	167.6	191.3	199.8
70°	115.4	116.3	115.4	138.2	160.3	168.7
72.5°	93.7	97.0	94.3	112.9	131.5	144.2
75°	76.8	81.0	76.8	89.5	107.0	122.2
77.5°	59.9	64.9	59.9	70.0	88.7	109.1
80°	45.4	49.7	45.4	56.8	83.0	106.4
82.5°	32.8	34.5	32.8	54.9	87.1	106.7
85°	25.0	20.1	26.3	62.3	98.3	116.9
87.5°	22.1	5.9	31.6	76.3	116.9	130.7
90°	14.0	0.7	40.1	95.9	137.0	147.2
92.5°	9.0	11.8	56.2	116.1	159.9	169.8
95°	4.4	28.3	72.9	140.5	186.5	192.3
97.5°	9.1	49.5	96.7	164.7	211.4	216.4
100°	23.4	75.5	126.2	190.5	234.9	237.2
102.5°	43.2	103.6	154.3	215.2	260.5	271.2
105°	70.0	135.8	183.8	248.7	286.1	298.1
107.5°	100.8	170.0	213.9	278.9	317.4	324.3
110°	133.7	205.6	244.0	308.4	350.4	358.5





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	169.3	242.6	275.4	335.8	385.2	391.4
115°	209.7	276.9	304.9	367.3	413.3	416.7
117.5°	246.0	317.9	335.0	390.6	442.8	443.5
120°	284.4	357.0	365.2	422.7	471.5	477.1
122.5°	323.4	393.9	393.9	450.1	496.9	500.3
125°	359.7	433.6	422.7	470.7	520.1	521.5
127.5°	396.8	474.1	454.2	497.4	542.7	540.6
130°	437.2	512.5	483.0	522.8	564.0	557.2
132.5°	474.1	553.5	512.5	549.6	585.2	589.3
135°	511.0	591.9	537.8	572.1	607.1	605.8
137.5°	546.7	627.5	568.6	589.1	621.5	625.6
140°	582.5	665.8	596.9	613.3	639.3	639.9
142.5°	618.6	704.2	626.1	636.6	659.1	655.1
145°	660.6	740.6	664.7	659.8	674.3	665.3
147.5°	696.8	772.0	691.4	677.0	694.2	682.5
150°	737.2	804.2	728.3	701.0	711.2	705.7
152.5°	773.4	829.5	768.0	718.6	731.1	724.2
155°	809.7	856.3	807.0	737.9	746.1	743.4
157.5°	841.2	879.6	836.4	757.1	766.7	761.3
160°	869.4	898.7	871.4	785.8	780.5	780.5
162.5°	893.4	918.0	895.5	824.9	794.7	782.5
165°	914.7	932.4	916.7	868.8	823.4	812.5
167.5°	934.5	946.2	940.7	904.4	867.9	844.0
170°	950.2	957.1	949.5	934.5	915.8	894.6
172.5°	958.4	961.2	966.1	956.4	948.7	935.0
175°	963.3	970.8	966.7	970.1	963.1	960.4
177.5°	964.6	966.1	965.3	971.5	974.1	969.3
180°	970.1	970.1	970.1	970.1	970.1	970.1

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