

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: P392597

Luminaire Tested: **MWL-3-37-28-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392597
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-13 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-37-28-UNV-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5949.6 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

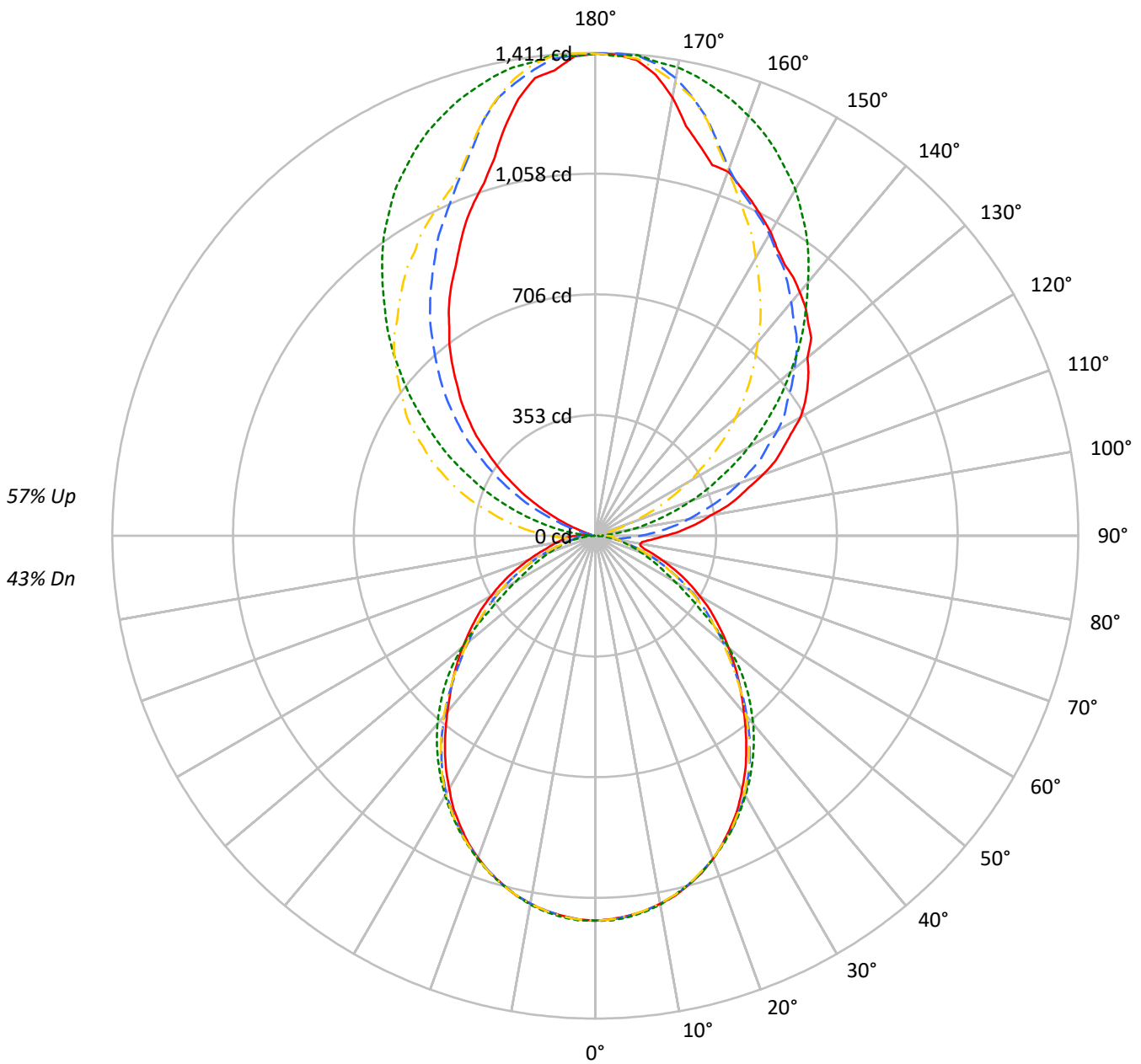
Input Watts (W): 64.741
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	64	64	64	50	50	50	43				
1	96	92	88	85	88	84	81	78	70	68	66	57	55	54	44	43	42	37				
2	88	81	75	70	80	74	69	65	62	58	55	50	47	45	39	38	36	31				
3	80	71	64	58	73	65	59	54	55	50	46	45	41	39	35	33	31	27				
4	74	63	56	50	67	58	51	46	49	44	40	40	36	33	32	29	27	23				
5	68	56	49	43	62	52	45	40	44	38	34	36	32	29	29	26	24	20				
6	62	51	43	37	57	47	40	35	39	34	30	33	29	26	26	23	21	18				
7	58	46	38	33	53	42	35	31	36	30	27	30	26	23	24	21	19	16				
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	15				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13				
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9686	9686	9686	9686
5°	9519	8891	9519	8891
10°	9320	8138	9320	8138
15°	9075	7415	9050	7415
20°	8765	6754	8739	6754
25°	8363	6131	8337	6131
30°	7890	5527	7854	5527
35°	7364	4954	7336	4954
40°	6803	4386	6763	4386
45°	6309	3792	6277	3792
50°	5839	3110	5804	3110
55°	5382	2300	5357	2300
60°	4887	1696	4873	1696
65°	4368	1282	4368	1282
70°	3772	950	3790	950
75°	3239	686	3304	686
80°	3703	454	3176	454
85°	5930	189	3463	189



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.8	1.8
10°-20°	297.1	5.0
20°-30°	433.4	7.3
30°-40°	489.8	8.2
40°-50°	457.9	7.7
50°-60°	361.4	6.1
60°-70°	236.5	4.0
70°-80°	123.7	2.1
80°-90°	78.3	1.3
90°-100°	115.9	1.9
100°-110°	218.6	3.7
110°-120°	374.3	6.3
120°-130°	508.4	8.5
130°-140°	579.9	9.7
140°-150°	578.5	9.7
150°-160°	503.8	8.5
160°-170°	354.4	6.0
170°-180°	132.0	2.2
0°-30°	836.3	14.1
0°-40°	1326.2	22.3
0°-60°	2145.5	36.1
0°-90°	2583.9	43.4
90°-120°	708.7	11.9
90°-150°	2375.4	39.9
90°-180°	3366.0	56.6
0°-180°	5949.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1125	1125	1125	1125	1125	
5°	1115	1119	1115	1119	1115	106
15°	1056	1055	1053	1055	1056	297
25°	937	946	934	946	937	431
35°	769	801	766	801	769	480
45°	590	623	587	623	590	456
55°	430	372	428	372	430	385
65°	278	198	278	198	278	276
75°	148	98	151	98	148	166
85°	155	24	91	24	155	122
90°	204	2	55	2	204	113
95°	272	41	37	41	272	237
105°	432	197	13	197	432	456
115°	605	402	139	402	605	600
125°	757	630	344	630	757	676
135°	879	860	553	860	879	679
145°	966	1076	744	1076	966	609
155°	1079	1244	936	1244	1079	498
165°	1180	1354	1141	1354	1180	335
175°	1395	1410	1365	1410	1395	130
180°	1409	1409	1409	1409	1409	



TEST NUMBER: P392597

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1124.8	1124.8	1124.8	1124.8	1124.8	1124.8	1124.8	1124.8	1124.8	1124.8	1124.8
2.5°	1121.0	1123.0	1122.2	1124.1	1125.0	1123.1	1122.2	1123.0	1122.0	1123.0	1122.2
5°	1114.6	1116.6	1115.8	1116.7	1118.6	1116.7	1114.8	1116.6	1114.6	1116.6	1114.8
7.5°	1105.6	1107.5	1105.7	1107.6	1108.5	1106.6	1104.8	1106.6	1105.6	1106.6	1104.8
10°	1092.0	1093.0	1092.0	1093.0	1094.8	1092.0	1091.1	1091.0	1092.0	1091.0	1091.1
12.5°	1077.6	1076.6	1074.7	1075.6	1074.6	1075.6	1074.7	1074.6	1075.6	1074.6	1074.7
15°	1055.8	1055.6	1054.7	1056.5	1054.6	1055.5	1053.7	1053.7	1052.9	1053.7	1053.7
17.5°	1033.0	1031.9	1030.1	1031.8	1031.8	1031.8	1029.1	1031.0	1030.1	1031.0	1029.1
20°	1004.8	1005.6	1004.6	1006.3	1005.3	1005.3	1003.6	1003.7	1001.8	1003.7	1003.6
22.5°	972.8	974.6	974.5	978.1	976.2	977.1	973.5	972.7	970.9	972.7	973.5
25°	937.2	940.0	945.4	947.1	946.1	946.1	943.4	937.1	934.3	937.1	943.4
27.5°	900.8	903.5	908.9	913.5	912.4	912.5	907.0	900.6	897.9	900.6	907.0
30°	857.1	862.5	873.5	878.8	876.8	876.9	870.6	859.6	853.2	859.6	870.6
32.5°	815.2	819.7	831.6	841.5	840.5	839.6	828.6	815.8	811.2	815.8	828.6
35°	768.6	771.3	786.8	800.5	801.2	797.6	783.9	768.4	765.7	768.4	783.9
37.5°	722.1	723.0	739.4	758.6	760.3	755.7	736.5	720.1	719.2	720.1	736.5
40°	675.7	673.8	688.4	711.2	717.5	709.2	684.5	669.9	671.8	669.9	684.5
42.5°	631.9	625.6	637.4	662.9	671.0	660.9	634.4	621.6	628.0	621.6	634.4
45°	590.0	579.1	585.5	608.3	622.7	606.2	581.5	576.1	587.0	576.1	581.5
47.5°	548.1	538.1	535.4	553.5	569.9	552.5	531.4	535.1	545.1	535.1	531.4
50°	508.0	497.1	488.9	499.7	508.8	497.7	484.9	493.1	505.0	493.1	484.9
52.5°	467.9	457.9	444.2	446.0	442.2	444.0	441.2	453.9	464.9	453.9	441.2
55°	429.6	420.5	402.3	393.0	372.0	391.0	399.2	417.5	427.6	417.5	399.2
57.5°	393.1	384.9	362.2	339.3	316.4	337.3	359.2	381.9	391.1	381.9	359.2
60°	352.0	347.5	321.1	286.4	269.0	285.4	319.1	345.5	351.0	345.5	319.1
62.5°	315.6	310.1	280.1	241.7	228.0	240.7	278.1	308.1	314.6	308.1	278.1
65°	278.2	270.0	239.0	201.6	197.9	200.6	238.0	269.0	278.2	269.0	238.0
67.5°	240.8	232.6	203.4	169.6	166.9	169.6	202.4	231.6	240.8	231.6	202.4
70°	207.0	194.2	168.7	139.6	141.4	139.6	168.7	195.2	208.0	195.2	168.7
72.5°	176.0	157.8	138.7	115.0	118.5	114.0	138.7	158.8	178.0	158.8	138.7
75°	147.8	127.7	107.6	92.1	97.6	92.1	108.6	128.7	150.8	128.7	108.6
77.5°	134.8	108.1	83.9	73.0	80.3	73.0	84.9	105.0	130.8	105.0	84.9
80°	133.5	103.7	68.7	55.7	61.1	55.7	66.7	87.8	114.5	87.8	66.7
82.5°	138.2	112.0	69.7	39.3	42.0	39.3	57.8	76.2	100.4	76.2	57.8
85°	155.3	130.8	82.5	33.2	23.8	31.2	53.6	70.2	90.7	70.2	53.6
87.5°	177.6	159.4	104.0	40.7	6.4	26.9	47.3	64.0	75.1	64.0	47.3
90°	204.5	190.0	132.6	55.3	1.9	17.5	34.1	49.7	55.2	49.7	34.1
92.5°	240.1	224.5	163.9	79.7	16.9	11.1	27.6	40.5	45.1	40.5	27.6
95°	272.5	264.7	200.3	106.2	40.7	6.7	21.2	33.9	36.7	33.9	21.2
97.5°	309.0	302.2	237.7	140.2	71.5	12.8	17.9	28.6	30.4	28.6	17.9
100°	341.4	337.7	275.2	182.9	109.3	33.7	11.5	25.2	28.0	25.2	11.5
102.5°	391.8	376.2	312.3	223.8	150.1	62.6	15.9	17.9	21.6	17.9	15.9
105°	432.2	414.6	361.1	266.6	196.9	101.4	39.7	14.7	13.3	14.7	39.7
107.5°	470.4	460.5	404.9	310.3	246.6	146.1	73.5	38.6	24.7	38.6	73.5
110°	520.1	508.2	447.6	354.1	298.4	194.0	112.3	70.4	54.6	70.4	112.3



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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°	568.0	559.0	487.4	399.9	352.1	245.6	160.1	110.2	95.3	110.2	160.1
115°	604.8	599.8	534.1	442.7	401.9	304.4	213.7	157.1	139.1	157.1	213.7
117.5°	643.6	642.6	568.0	486.4	461.6	357.1	262.5	203.8	184.9	203.8	262.5
120°	692.3	684.3	614.7	530.3	518.2	412.8	316.2	257.5	238.6	257.5	316.2
122.5°	726.1	721.1	654.5	572.0	572.0	469.5	368.0	309.2	289.4	309.2	368.0
125°	756.9	755.0	684.3	613.8	629.8	522.2	425.7	366.0	344.1	366.0	425.7
127.5°	784.8	787.8	723.1	659.5	688.4	576.0	482.3	416.7	393.9	416.7	482.3
130°	808.7	818.6	759.9	701.4	744.1	634.7	533.1	467.5	452.5	467.5	533.1
132.5°	855.4	849.5	797.8	744.1	803.9	688.4	586.8	518.2	501.3	518.2	586.8
135°	879.4	881.3	830.6	781.8	859.5	743.1	637.6	569.9	553.0	569.9	637.6
137.5°	908.2	902.3	856.4	826.6	911.3	794.8	687.3	624.7	597.8	624.7	687.3
140°	929.1	928.1	890.3	866.5	967.0	845.5	738.1	674.4	649.5	674.4	738.1
142.5°	951.0	956.9	924.1	910.2	1022.7	899.3	792.8	723.1	699.3	723.1	792.8
145°	965.9	978.9	957.9	964.9	1075.5	958.9	840.6	769.9	744.0	769.9	840.6
147.5°	990.8	1007.7	982.8	1003.8	1121.2	1011.7	888.3	818.6	795.8	818.6	888.3
150°	1024.6	1032.5	1017.6	1057.4	1168.9	1070.4	937.1	865.5	842.6	865.5	937.1
152.5°	1051.5	1061.4	1044.5	1116.2	1205.7	1124.1	990.8	911.2	884.3	911.2	990.8
155°	1079.4	1083.3	1071.4	1172.9	1244.5	1176.9	1033.6	961.9	936.1	961.9	1033.6
157.5°	1105.2	1113.2	1099.2	1215.7	1278.4	1222.6	1082.3	1012.7	989.8	1012.7	1082.3
160°	1133.0	1133.0	1141.1	1265.4	1306.2	1262.4	1134.0	1068.4	1036.6	1068.4	1134.0
162.5°	1136.1	1154.9	1197.7	1300.2	1333.0	1297.2	1189.8	1108.2	1080.3	1108.2	1189.8
165°	1179.8	1196.7	1261.4	1331.0	1353.9	1328.1	1258.4	1173.9	1141.1	1173.9	1258.4
167.5°	1225.6	1261.4	1313.2	1365.9	1373.8	1356.9	1311.2	1252.5	1222.6	1252.5	1311.2
170°	1300.2	1331.0	1356.9	1378.9	1389.8	1379.8	1344.0	1315.2	1296.2	1315.2	1344.0
172.5°	1358.0	1378.9	1388.8	1402.7	1395.7	1391.7	1373.8	1359.9	1349.1	1359.9	1373.8
175°	1394.8	1399.7	1408.7	1403.7	1409.7	1398.7	1399.7	1406.6	1365.0	1406.6	1399.7
177.5°	1407.7	1415.7	1410.7	1401.7	1402.7	1400.7	1404.6	1408.7	1401.8	1408.7	1404.6
180°	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7



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CATALOG NUMBER: MWL-3-37-28-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1124.8	1124.8	1124.8	1124.8	1124.8	1124.8
2.5°	1123.1	1125.0	1124.1	1122.2	1123.0	1121.0
5°	1116.7	1118.6	1116.7	1115.8	1116.6	1114.6
7.5°	1106.6	1108.5	1107.6	1105.7	1107.5	1105.6
10°	1092.0	1094.8	1093.0	1092.0	1093.0	1092.0
12.5°	1075.6	1074.6	1075.6	1074.7	1076.6	1077.6
15°	1055.5	1054.6	1056.5	1054.7	1055.6	1055.8
17.5°	1031.8	1031.8	1031.8	1030.1	1031.9	1033.0
20°	1005.3	1005.3	1006.3	1004.6	1005.6	1004.8
22.5°	977.1	976.2	978.1	974.5	974.6	972.8
25°	946.1	946.1	947.1	945.4	940.0	937.2
27.5°	912.5	912.4	913.5	908.9	903.5	900.8
30°	876.9	876.8	878.8	873.5	862.5	857.1
32.5°	839.6	840.5	841.5	831.6	819.7	815.2
35°	797.6	801.2	800.5	786.8	771.3	768.6
37.5°	755.7	760.3	758.6	739.4	723.0	722.1
40°	709.2	717.5	711.2	688.4	673.8	675.7
42.5°	660.9	671.0	662.9	637.4	625.6	631.9
45°	606.2	622.7	608.3	585.5	579.1	590.0
47.5°	552.5	569.9	553.5	535.4	538.1	548.1
50°	497.7	508.8	499.7	488.9	497.1	508.0
52.5°	444.0	442.2	446.0	444.2	457.9	467.9
55°	391.0	372.0	393.0	402.3	420.5	429.6
57.5°	337.3	316.4	339.3	362.2	384.9	393.1
60°	285.4	269.0	286.4	321.1	347.5	352.0
62.5°	240.7	228.0	241.7	280.1	310.1	315.6
65°	200.6	197.9	201.6	239.0	270.0	278.2
67.5°	169.6	166.9	169.6	203.4	232.6	240.8
70°	139.6	141.4	139.6	168.7	194.2	207.0
72.5°	114.0	118.5	115.0	138.7	157.8	176.0
75°	92.1	97.6	92.1	107.6	127.7	147.8
77.5°	73.0	80.3	73.0	83.9	108.1	134.8
80°	55.7	61.1	55.7	68.7	103.7	133.5
82.5°	39.3	42.0	39.3	69.7	112.0	138.2
85°	31.2	23.8	33.2	82.5	130.8	155.3
87.5°	26.9	6.4	40.7	104.0	159.4	177.6
90°	17.5	1.9	55.3	132.6	190.0	204.5
92.5°	11.1	16.9	79.7	163.9	224.5	240.1
95°	6.7	40.7	106.2	200.3	264.7	272.5
97.5°	12.8	71.5	140.2	237.7	302.2	309.0
100°	33.7	109.3	182.9	275.2	337.7	341.4
102.5°	62.6	150.1	223.8	312.3	376.2	391.8
105°	101.4	196.9	266.6	361.1	414.6	432.2
107.5°	146.1	246.6	310.3	404.9	460.5	470.4
110°	194.0	298.4	354.1	447.6	508.2	520.1



TEST NUMBER: P392597

CATALOG NUMBER: MWL-3-37-28-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	245.6	352.1	399.9	487.4	559.0	568.0
115°	304.4	401.9	442.7	534.1	599.8	604.8
117.5°	357.1	461.6	486.4	568.0	642.6	643.6
120°	412.8	518.2	530.3	614.7	684.3	692.3
122.5°	469.5	572.0	572.0	654.5	721.1	726.1
125°	522.2	629.8	613.8	684.3	755.0	756.9
127.5°	576.0	688.4	659.5	723.1	787.8	784.8
130°	634.7	744.1	701.4	759.9	818.6	808.7
132.5°	688.4	803.9	744.1	797.8	849.5	855.4
135°	743.1	859.5	781.8	830.6	881.3	879.4
137.5°	794.8	911.3	826.6	856.4	902.3	908.2
140°	845.5	967.0	866.5	890.3	928.1	929.1
142.5°	899.3	1022.7	910.2	924.1	956.9	951.0
145°	958.9	1075.5	964.9	957.9	978.9	965.9
147.5°	1011.7	1121.2	1003.8	982.8	1007.7	990.8
150°	1070.4	1168.9	1057.4	1017.6	1032.5	1024.6
152.5°	1124.1	1205.7	1116.2	1044.5	1061.4	1051.5
155°	1176.9	1244.5	1172.9	1071.4	1083.3	1079.4
157.5°	1222.6	1278.4	1215.7	1099.2	1113.2	1105.2
160°	1262.4	1306.2	1265.4	1141.1	1133.0	1133.0
162.5°	1297.2	1333.0	1300.2	1197.7	1154.9	1136.1
165°	1328.1	1353.9	1331.0	1261.4	1196.7	1179.8
167.5°	1356.9	1373.8	1365.9	1313.2	1261.4	1225.6
170°	1379.8	1389.8	1378.9	1356.9	1331.0	1300.2
172.5°	1391.7	1395.7	1402.7	1388.8	1378.9	1358.0
175°	1398.7	1409.7	1403.7	1408.7	1399.7	1394.8
177.5°	1400.7	1402.7	1401.7	1410.7	1415.7	1407.7
180°	1408.7	1408.7	1408.7	1408.7	1408.7	1408.7

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