

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: P392595

Luminaire Tested: **MWL-3-37-28-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392595
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-L930-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

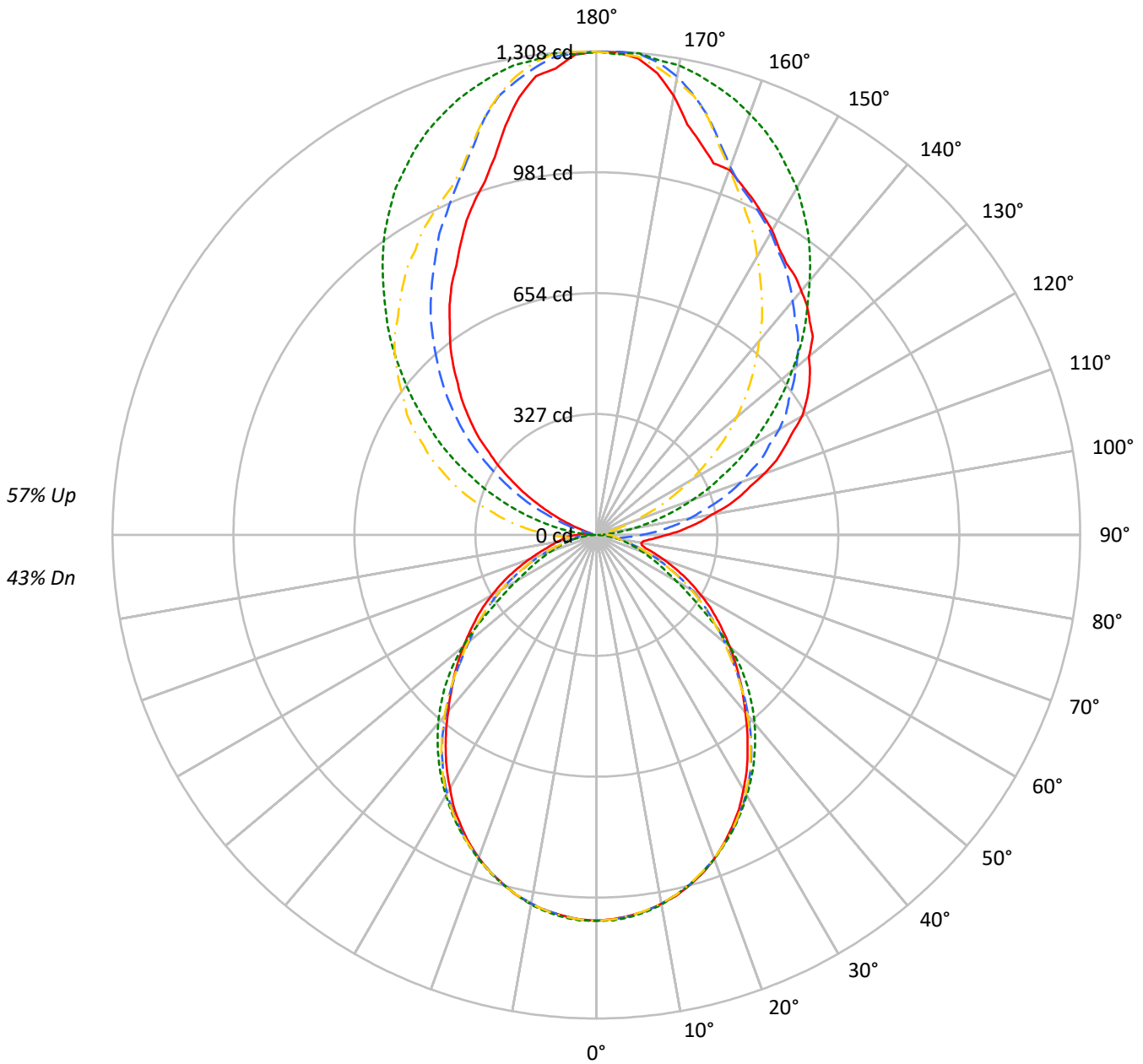
Lumens per Lamp: N/A
Luminaire Lumens: 5518.9 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

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										
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	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°	8985	8985	8985	8985
5°	8831	8247	8831	8247
10°	8646	7549	8646	7549
15°	8418	6878	8395	6878
20°	8130	6265	8107	6265
25°	7758	5687	7734	5687
30°	7318	5127	7285	5127
35°	6830	4595	6805	4595
40°	6309	4068	6273	4068
45°	5852	3518	5822	3518
50°	5416	2884	5384	2884
55°	4992	2134	4970	2134
60°	4534	1573	4520	1573
65°	4050	1190	4050	1190
70°	3499	881	3515	881
75°	3004	636	3066	636
80°	3434	421	2949	421
85°	5502	176	3215	176



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.2	1.8
10°-20°	275.6	5.0
20°-30°	402.1	7.3
30°-40°	454.4	8.2
40°-50°	424.8	7.7
50°-60°	335.2	6.1
60°-70°	219.4	4.0
70°-80°	114.7	2.1
80°-90°	72.6	1.3
90°-100°	107.5	1.9
100°-110°	202.7	3.7
110°-120°	347.2	6.3
120°-130°	471.6	8.5
130°-140°	537.9	9.7
140°-150°	536.6	9.7
150°-160°	467.4	8.5
160°-170°	328.8	6.0
170°-180°	122.5	2.2
0°-30°	775.8	14.1
0°-40°	1230.2	22.3
0°-60°	1990.2	36.1
0°-90°	2396.8	43.4
90°-120°	657.4	11.9
90°-150°	2203.5	39.9
90°-180°	3122.0	56.6
0°-180°	5518.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1043	1043	1043	1043	1043	
5°	1034	1038	1034	1038	1034	98
15°	979	978	977	978	979	276
25°	869	878	867	878	869	400
35°	713	743	710	743	713	445
45°	547	578	544	578	547	423
55°	398	345	397	345	398	357
65°	258	184	258	184	258	256
75°	137	90	140	90	137	154
85°	144	22	84	22	144	113
90°	190	2	51	2	190	105
95°	253	38	34	38	253	220
105°	401	183	12	183	401	423
115°	561	373	129	373	561	557
125°	702	584	319	584	702	627
135°	816	797	513	797	816	630
145°	896	998	690	998	896	565
155°	1001	1154	868	1154	1001	462
165°	1094	1256	1058	1256	1094	310
175°	1294	1308	1266	1308	1294	121
180°	1307	1307	1307	1307	1307	



TEST NUMBER: P392595

CATALOG NUMBER: MWL-3-37-28-UNV-L930-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1043.4	1043.4	1043.4	1043.4	1043.4	1043.4	1043.4	1043.4	1043.4	1043.4	1043.4
2.5°	1039.9	1041.7	1041.0	1042.8	1043.6	1041.8	1041.0	1041.7	1040.8	1041.7	1041.0
5°	1034.0	1035.8	1035.0	1035.9	1037.6	1035.9	1034.1	1035.8	1034.0	1035.8	1034.1
7.5°	1025.6	1027.4	1025.7	1027.5	1028.3	1026.5	1024.8	1026.5	1025.6	1026.5	1024.8
10°	1013.0	1013.8	1013.0	1013.8	1015.6	1013.0	1012.1	1012.0	1013.0	1012.0	1012.1
12.5°	999.5	998.7	996.9	997.8	996.8	997.8	996.9	996.8	997.8	996.8	996.9
15°	979.4	979.2	978.3	980.0	978.2	979.1	977.4	977.4	976.7	977.4	977.4
17.5°	958.2	957.2	955.5	957.1	957.1	957.1	954.6	956.4	955.5	956.4	954.6
20°	932.0	932.8	931.8	933.5	932.5	932.5	931.0	931.0	929.4	931.0	931.0
22.5°	902.3	904.1	904.0	907.3	905.5	906.3	903.0	902.2	900.6	902.2	903.0
25°	869.4	872.0	876.9	878.6	877.6	877.6	875.1	869.2	866.7	869.2	875.1
27.5°	835.6	838.1	843.2	847.4	846.3	846.4	841.3	835.4	832.9	835.4	841.3
30°	795.0	800.1	810.2	815.3	813.4	813.5	807.5	797.4	791.4	797.4	807.5
32.5°	756.2	760.4	771.4	780.6	779.7	778.8	768.7	756.8	752.6	756.8	768.7
35°	712.9	715.5	729.8	742.5	743.2	739.9	727.2	712.8	710.3	712.8	727.2
37.5°	669.9	670.7	685.9	703.7	705.3	701.0	683.2	668.0	667.2	668.0	683.2
40°	626.7	625.1	638.6	659.8	665.6	657.9	634.9	621.5	623.1	621.5	634.9
42.5°	586.2	580.2	591.3	614.9	622.4	613.1	588.4	576.6	582.5	576.6	588.4
45°	547.3	537.2	543.1	564.2	577.7	562.4	539.4	534.4	544.5	534.4	539.4
47.5°	508.4	499.2	496.6	513.4	528.7	512.5	492.9	496.3	505.7	496.3	492.9
50°	471.2	461.1	453.5	463.6	471.9	461.7	449.8	457.4	468.4	457.4	449.8
52.5°	434.1	424.8	412.0	413.7	410.2	411.8	409.3	421.1	431.3	421.1	409.3
55°	398.5	390.1	373.2	364.6	345.1	362.8	370.3	387.2	396.7	387.2	370.3
57.5°	364.7	357.0	335.9	314.7	293.6	312.8	333.2	354.3	362.9	354.3	333.2
60°	326.6	322.4	297.9	265.6	249.5	264.7	295.9	320.5	325.6	320.5	295.9
62.5°	292.8	287.7	259.8	224.2	211.5	223.3	257.9	285.8	291.8	285.8	257.9
65°	258.0	250.4	221.7	187.0	183.6	186.1	220.7	249.4	258.0	249.4	220.7
67.5°	223.4	215.8	188.7	157.3	154.8	157.3	187.8	214.8	223.4	214.8	187.8
70°	192.0	180.2	156.6	129.4	131.2	129.4	156.6	181.1	192.9	181.1	156.6
72.5°	163.2	146.3	128.6	106.6	110.0	105.7	128.6	147.3	165.2	147.3	128.6
75°	137.1	118.5	99.8	85.4	90.5	85.4	100.7	119.4	139.9	119.4	100.7
77.5°	125.0	100.2	77.8	67.7	74.5	67.7	78.8	97.5	121.3	97.5	78.8
80°	123.8	96.2	63.7	51.6	56.7	51.6	61.9	81.4	106.3	81.4	61.9
82.5°	128.2	103.9	64.6	36.5	38.9	36.5	53.6	70.6	93.2	70.6	53.6
85°	144.1	121.3	76.5	30.7	22.1	28.9	49.7	65.1	84.2	65.1	49.7
87.5°	164.7	147.9	96.5	37.8	5.9	24.9	43.8	59.3	69.6	59.3	43.8
90°	189.7	176.2	123.0	51.3	1.8	16.2	31.6	46.1	51.2	46.1	31.6
92.5°	222.7	208.2	152.1	74.0	15.7	10.3	25.6	37.5	41.8	37.5	25.6
95°	252.8	245.5	185.8	98.5	37.8	6.3	19.7	31.4	34.1	31.4	19.7
97.5°	286.6	280.4	220.5	130.0	66.3	11.9	16.6	26.5	28.3	26.5	16.6
100°	316.7	313.2	255.3	169.7	101.4	31.3	10.7	23.4	26.0	23.4	10.7
102.5°	363.4	348.9	289.7	207.5	139.3	58.0	14.7	16.6	20.0	16.6	14.7
105°	401.0	384.6	334.9	247.3	182.6	94.0	36.8	13.6	12.3	13.6	36.8
107.5°	436.4	427.1	375.6	287.8	228.8	135.6	68.2	35.8	22.9	35.8	68.2
110°	482.5	471.4	415.2	328.5	276.8	180.0	104.3	65.3	50.6	65.3	104.3



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CATALOG NUMBER: MWL-3-37-28-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	526.9	518.5	452.1	371.0	326.7	227.9	148.5	102.2	88.4	102.2	148.5
115°	561.1	556.4	495.5	410.7	372.8	282.4	198.3	145.7	129.1	145.7	198.3
117.5°	597.0	596.1	526.9	451.3	428.2	331.2	243.5	189.0	171.5	189.0	243.5
120°	642.2	634.8	570.2	491.8	480.8	382.9	293.4	238.9	221.4	238.9	293.4
122.5°	673.6	668.9	607.2	530.6	530.6	435.5	341.4	286.9	268.4	286.9	341.4
125°	702.1	700.3	634.8	569.4	584.2	484.5	394.8	339.5	319.2	339.5	394.8
127.5°	728.0	730.8	670.8	611.8	638.6	534.3	447.4	386.5	365.3	386.5	447.4
130°	750.2	759.3	704.9	650.6	690.2	588.7	494.5	433.6	419.8	433.6	494.5
132.5°	793.5	788.0	740.0	690.2	745.7	638.6	544.3	480.8	465.0	480.8	544.3
135°	815.8	817.5	770.4	725.3	797.3	689.3	591.4	528.7	513.0	528.7	591.4
137.5°	842.5	836.9	794.5	766.8	845.3	737.2	637.6	579.5	554.5	579.5	637.6
140°	861.9	861.0	825.9	803.7	897.0	784.3	684.7	625.6	602.5	625.6	684.7
142.5°	882.2	887.6	857.3	844.3	948.7	834.2	735.5	670.8	648.7	670.8	735.5
145°	896.0	908.1	888.6	895.1	997.6	889.5	779.8	714.2	690.1	714.2	779.8
147.5°	919.1	934.7	911.7	931.1	1040.0	938.4	824.1	759.3	738.1	759.3	824.1
150°	950.5	957.8	944.0	980.9	1084.2	992.9	869.2	802.8	781.6	802.8	869.2
152.5°	975.4	984.6	968.9	1035.4	1118.4	1042.8	919.1	845.3	820.3	845.3	919.1
155°	1001.2	1004.9	993.8	1087.9	1154.4	1091.6	958.8	892.3	868.3	892.3	958.8
157.5°	1025.2	1032.7	1019.7	1127.7	1185.9	1134.1	1003.9	939.4	918.2	939.4	1003.9
160°	1051.1	1051.1	1058.4	1173.8	1211.6	1171.1	1051.9	991.0	961.5	991.0	1051.9
162.5°	1053.8	1071.3	1111.0	1206.1	1236.6	1203.3	1103.7	1028.0	1002.1	1028.0	1103.7
165°	1094.4	1110.1	1170.1	1234.7	1255.9	1232.0	1167.4	1088.9	1058.4	1088.9	1167.4
167.5°	1136.9	1170.1	1218.1	1267.0	1274.4	1258.7	1216.2	1161.8	1134.1	1161.8	1216.2
170°	1206.1	1234.7	1258.7	1279.0	1289.2	1279.9	1246.7	1220.0	1202.4	1220.0	1246.7
172.5°	1259.7	1279.0	1288.3	1301.2	1294.7	1291.0	1274.4	1261.5	1251.5	1261.5	1274.4
175°	1293.8	1298.4	1306.7	1302.1	1307.6	1297.5	1298.4	1304.8	1266.2	1304.8	1298.4
177.5°	1305.9	1313.2	1308.5	1300.2	1301.2	1299.4	1303.0	1306.7	1300.3	1306.7	1303.0
180°	1306.7	1306.7	1306.7	1306.7	1306.7	1306.7	1306.7	1306.7	1306.7	1306.7	1306.7



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CATALOG NUMBER: MWL-3-37-28-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1043.4	1043.4	1043.4	1043.4	1043.4	1043.4
2.5°	1041.8	1043.6	1042.8	1041.0	1041.7	1039.9
5°	1035.9	1037.6	1035.9	1035.0	1035.8	1034.0
7.5°	1026.5	1028.3	1027.5	1025.7	1027.4	1025.6
10°	1013.0	1015.6	1013.8	1013.0	1013.8	1013.0
12.5°	997.8	996.8	997.8	996.9	998.7	999.5
15°	979.1	978.2	980.0	978.3	979.2	979.4
17.5°	957.1	957.1	957.1	955.5	957.2	958.2
20°	932.5	932.5	933.5	931.8	932.8	932.0
22.5°	906.3	905.5	907.3	904.0	904.1	902.3
25°	877.6	877.6	878.6	876.9	872.0	869.4
27.5°	846.4	846.3	847.4	843.2	838.1	835.6
30°	813.5	813.4	815.3	810.2	800.1	795.0
32.5°	778.8	779.7	780.6	771.4	760.4	756.2
35°	739.9	743.2	742.5	729.8	715.5	712.9
37.5°	701.0	705.3	703.7	685.9	670.7	669.9
40°	657.9	665.6	659.8	638.6	625.1	626.7
42.5°	613.1	622.4	614.9	591.3	580.2	586.2
45°	562.4	577.7	564.2	543.1	537.2	547.3
47.5°	512.5	528.7	513.4	496.6	499.2	508.4
50°	461.7	471.9	463.6	453.5	461.1	471.2
52.5°	411.8	410.2	413.7	412.0	424.8	434.1
55°	362.8	345.1	364.6	373.2	390.1	398.5
57.5°	312.8	293.6	314.7	335.9	357.0	364.7
60°	264.7	249.5	265.6	297.9	322.4	326.6
62.5°	223.3	211.5	224.2	259.8	287.7	292.8
65°	186.1	183.6	187.0	221.7	250.4	258.0
67.5°	157.3	154.8	157.3	188.7	215.8	223.4
70°	129.4	131.2	129.4	156.6	180.2	192.0
72.5°	105.7	110.0	106.6	128.6	146.3	163.2
75°	85.4	90.5	85.4	99.8	118.5	137.1
77.5°	67.7	74.5	67.7	77.8	100.2	125.0
80°	51.6	56.7	51.6	63.7	96.2	123.8
82.5°	36.5	38.9	36.5	64.6	103.9	128.2
85°	28.9	22.1	30.7	76.5	121.3	144.1
87.5°	24.9	5.9	37.8	96.5	147.9	164.7
90°	16.2	1.8	51.3	123.0	176.2	189.7
92.5°	10.3	15.7	74.0	152.1	208.2	222.7
95°	6.3	37.8	98.5	185.8	245.5	252.8
97.5°	11.9	66.3	130.0	220.5	280.4	286.6
100°	31.3	101.4	169.7	255.3	313.2	316.7
102.5°	58.0	139.3	207.5	289.7	348.9	363.4
105°	94.0	182.6	247.3	334.9	384.6	401.0
107.5°	135.6	228.8	287.8	375.6	427.1	436.4
110°	180.0	276.8	328.5	415.2	471.4	482.5



TEST NUMBER: P392595

CATALOG NUMBER: MWL-3-37-28-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	227.9	326.7	371.0	452.1	518.5	526.9
115°	282.4	372.8	410.7	495.5	556.4	561.1
117.5°	331.2	428.2	451.3	526.9	596.1	597.0
120°	382.9	480.8	491.8	570.2	634.8	642.2
122.5°	435.5	530.6	530.6	607.2	668.9	673.6
125°	484.5	584.2	569.4	634.8	700.3	702.1
127.5°	534.3	638.6	611.8	670.8	730.8	728.0
130°	588.7	690.2	650.6	704.9	759.3	750.2
132.5°	638.6	745.7	690.2	740.0	788.0	793.5
135°	689.3	797.3	725.3	770.4	817.5	815.8
137.5°	737.2	845.3	766.8	794.5	836.9	842.5
140°	784.3	897.0	803.7	825.9	861.0	861.9
142.5°	834.2	948.7	844.3	857.3	887.6	882.2
145°	889.5	997.6	895.1	888.6	908.1	896.0
147.5°	938.4	1040.0	931.1	911.7	934.7	919.1
150°	992.9	1084.2	980.9	944.0	957.8	950.5
152.5°	1042.8	1118.4	1035.4	968.9	984.6	975.4
155°	1091.6	1154.4	1087.9	993.8	1004.9	1001.2
157.5°	1134.1	1185.9	1127.7	1019.7	1032.7	1025.2
160°	1171.1	1211.6	1173.8	1058.4	1051.1	1051.1
162.5°	1203.3	1236.6	1206.1	1111.0	1071.3	1053.8
165°	1232.0	1255.9	1234.7	1170.1	1110.1	1094.4
167.5°	1258.7	1274.4	1267.0	1218.1	1170.1	1136.9
170°	1279.9	1289.2	1279.0	1258.7	1234.7	1206.1
172.5°	1291.0	1294.7	1301.2	1288.3	1279.0	1259.7
175°	1297.5	1307.6	1302.1	1306.7	1298.4	1293.8
177.5°	1299.4	1301.2	1300.2	1308.5	1313.2	1305.9
180°	1306.7	1306.7	1306.7	1306.7	1306.7	1306.7

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