

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: P392545

Luminaire Tested: **MWL-2-35-38-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392545
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-2-35-38-UNV-L935-EDD
Description: MWL 2FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

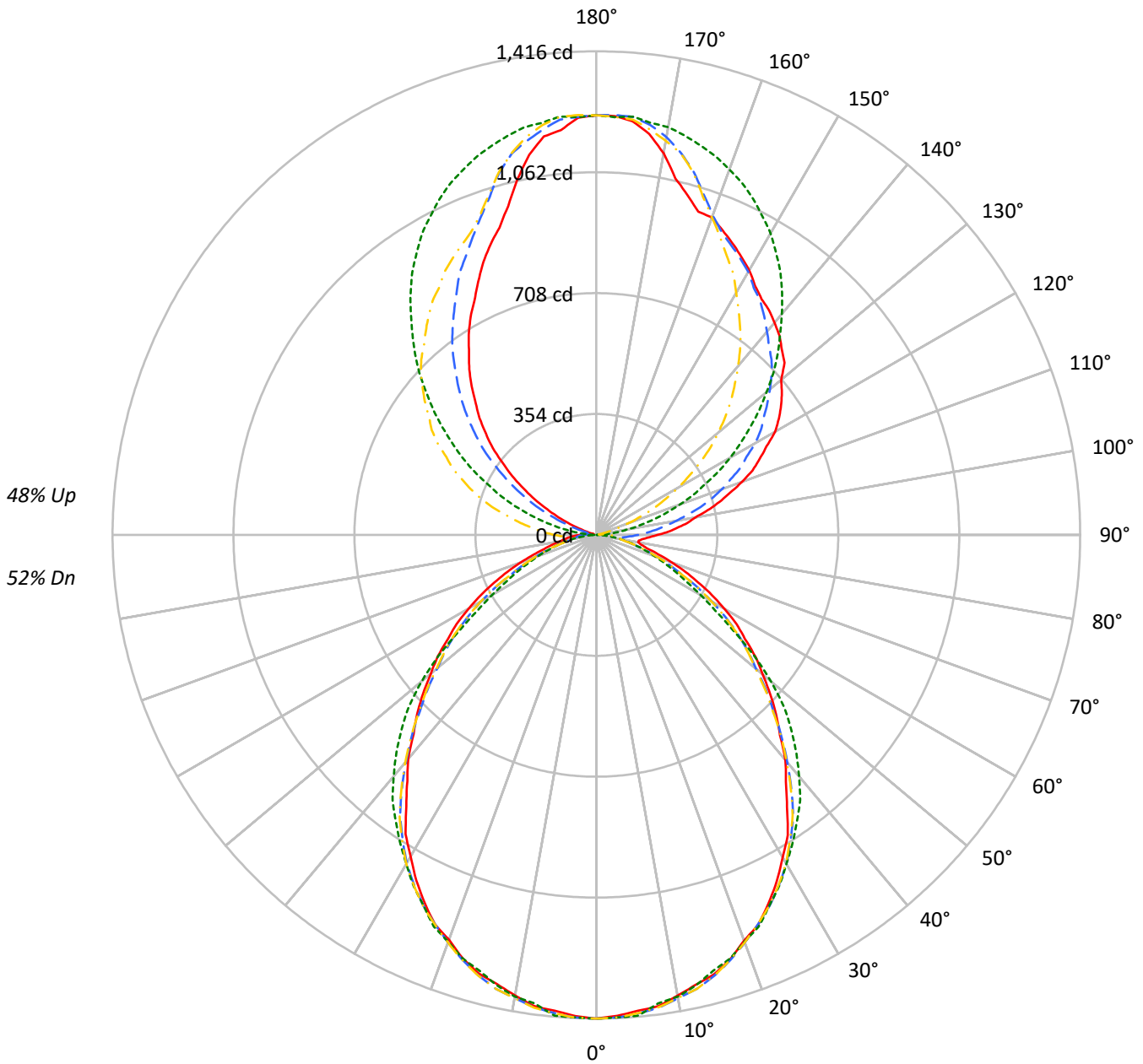
Lumens per Lamp: N/A
Luminaire Lumens: 6157.7 lumens
Efficiency: N/A
Efficacy: 72.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.18 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 2' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 85.345
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	0
RCR																		
0	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	99	94	91	87	91	87	84	81	75	72	70	63	61	60	52	51	50	45
2	90	83	77	72	83	77	72	67	66	62	59	56	53	50	46	44	43	38
3	82	73	66	60	76	68	62	57	58	54	50	50	46	43	41	39	37	33
4	76	65	57	51	70	61	54	49	52	47	43	44	41	37	37	34	32	28
5	70	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28	25
6	64	52	44	39	59	49	42	37	42	37	33	36	32	29	31	27	25	22
7	59	47	40	34	55	44	37	32	39	33	29	33	29	26	28	25	22	20
8	55	43	35	30	51	40	34	29	35	30	26	30	26	23	26	23	20	18
9	52	39	32	27	48	37	30	26	32	27	23	28	24	21	24	21	18	16
10	48	36	29	24	45	34	28	23	30	25	21	26	22	19	22	19	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	18291	18291	18291	18291
5°	17808	16843	17808	16843
10°	17323	15305	17323	15305
15°	16868	13931	16836	13931
20°	16152	12773	16119	12773
25°	15480	11638	15446	11638
30°	14521	10518	14476	10518
35°	13378	9489	13343	9489
40°	12350	8462	12299	8462
45°	11253	7371	11214	7371
50°	10224	6121	10182	6121
55°	9212	4544	9181	4544
60°	8207	3338	8189	3338
65°	6948	2482	6948	2482
70°	5613	1817	5632	1817
75°	4357	1276	4430	1276
80°	4238	809	3679	809
85°	6005	339	3537	339



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.1	2.2
10°-20°	374.5	6.1
20°-30°	549.5	8.9
30°-40°	623.2	10.1
40°-50°	581.8	9.4
50°-60°	457.0	7.4
60°-70°	284.8	4.6
70°-80°	138.3	2.2
80°-90°	78.0	1.3
90°-100°	102.0	1.7
100°-110°	189.5	3.1
110°-120°	326.6	5.3
120°-130°	443.8	7.2
130°-140°	506.4	8.2
140°-150°	505.0	8.2
150°-160°	439.8	7.1
160°-170°	309.1	5.0
170°-180°	115.1	1.9
0°-30°	1057.2	17.2
0°-40°	1680.4	27.3
0°-60°	2719.2	44.2
0°-90°	3220.3	52.3
90°-120°	618.2	10.0
90°-150°	2073.4	33.7
90°-180°	2937.0	47.7
0°-180°	6157.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1416	1416	1416	1416	1416	
5°	1398	1413	1398	1413	1398	133
15°	1332	1321	1329	1321	1332	374
25°	1192	1197	1189	1197	1192	547
35°	972	1023	970	1023	972	610
45°	744	807	742	807	744	574
55°	531	490	529	490	531	478
65°	329	255	329	255	329	328
75°	155	121	158	121	155	174
85°	137	28	81	28	137	109
90°	178	2	49	2	178	99
95°	237	36	32	36	237	206
105°	372	172	8	172	372	393
115°	528	351	122	351	528	523
125°	660	550	300	550	660	590
135°	768	751	483	751	768	592
145°	843	939	650	939	843	532
155°	942	1086	818	1086	942	435
165°	1030	1180	996	1180	1030	292
175°	1216	1229	1190	1229	1216	113
180°	1228	1228	1228	1228	1228	



TEST NUMBER: P392545

CATALOG NUMBER: MWL-2-35-38-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1416.1	1416.1	1416.1	1416.1	1416.1	1416.1	1416.1	1416.1	1416.1	1416.1	1416.1
2.5°	1409.4	1406.9	1414.5	1410.2	1414.5	1409.5	1414.5	1406.9	1410.2	1406.9	1414.5
5°	1398.5	1402.6	1406.1	1403.6	1412.7	1403.6	1405.2	1402.6	1398.5	1402.6	1405.2
7.5°	1391.9	1395.2	1396.1	1392.7	1383.6	1391.9	1395.1	1394.4	1391.9	1394.4	1395.1
10°	1369.3	1380.2	1377.7	1374.4	1372.7	1373.5	1376.8	1378.5	1369.3	1378.5	1376.8
12.5°	1348.5	1351.0	1361.0	1353.5	1350.1	1353.5	1361.0	1349.3	1346.8	1349.3	1361.0
15°	1331.8	1328.5	1335.9	1327.6	1320.9	1326.8	1335.1	1326.8	1329.3	1326.8	1335.1
17.5°	1302.6	1297.6	1305.0	1304.2	1300.9	1304.2	1304.2	1296.7	1300.0	1296.7	1304.2
20°	1264.2	1271.7	1270.0	1271.7	1267.5	1270.9	1269.2	1270.0	1261.6	1270.0	1269.2
22.5°	1235.9	1234.2	1235.0	1237.5	1241.6	1236.6	1234.1	1232.5	1234.1	1232.5	1234.1
25°	1191.7	1189.2	1199.2	1196.6	1197.4	1195.7	1197.4	1186.6	1189.1	1186.6	1197.4
27.5°	1143.3	1141.6	1156.6	1159.0	1159.0	1158.2	1154.9	1139.0	1140.7	1139.0	1154.9
30°	1090.7	1094.9	1112.5	1114.1	1112.4	1112.4	1109.9	1092.3	1087.3	1092.3	1109.9
32.5°	1042.3	1039.0	1058.2	1071.5	1069.0	1069.7	1055.6	1035.6	1038.9	1035.6	1055.6
35°	972.2	976.5	1004.0	1020.6	1023.1	1018.0	1001.4	973.9	969.6	973.9	1001.4
37.5°	911.3	914.7	937.2	970.6	979.7	968.0	934.6	912.1	908.7	912.1	934.6
40°	860.5	850.5	869.6	908.7	923.0	907.1	866.1	846.9	856.9	846.9	866.1
42.5°	795.3	791.2	802.8	846.2	866.2	844.5	800.2	787.7	791.9	787.7	800.2
45°	744.4	732.7	734.4	778.6	807.0	777.0	731.0	730.1	741.8	730.1	731.0
47.5°	690.1	675.1	673.5	709.4	745.2	708.5	670.0	672.5	687.6	672.5	670.0
50°	635.1	627.6	610.9	636.7	667.6	635.0	607.5	624.1	632.5	624.1	607.5
52.5°	587.5	577.5	558.3	574.2	582.5	572.4	555.7	574.1	585.0	574.1	555.7
55°	530.8	526.6	505.0	505.7	489.9	504.0	502.4	524.0	529.0	524.0	502.4
57.5°	486.6	480.7	448.2	433.2	413.1	431.4	445.6	478.1	484.9	478.1	445.6
60°	432.3	425.7	389.8	363.0	353.0	362.2	388.0	423.9	431.4	423.9	388.0
62.5°	381.5	374.0	335.6	301.2	297.1	300.5	333.9	372.2	380.5	372.2	333.9
65°	328.9	316.3	277.9	249.6	255.4	248.7	277.1	315.5	328.9	315.5	277.1
67.5°	282.1	262.9	233.7	207.0	216.2	207.0	232.9	262.1	282.1	262.1	232.9
70°	233.7	212.9	192.0	170.3	180.3	170.3	192.0	213.7	234.5	213.7	192.0
72.5°	191.1	172.0	154.5	139.4	147.6	138.5	154.5	172.8	192.9	172.8	154.5
75°	155.2	134.4	119.3	110.1	121.0	110.1	120.2	135.2	157.8	135.2	120.2
77.5°	134.7	113.6	89.3	85.9	96.0	85.9	90.2	111.1	131.2	111.1	90.2
80°	124.3	107.4	71.9	64.3	72.6	64.3	70.2	93.6	107.9	93.6	70.2
82.5°	125.1	112.3	70.6	45.0	48.4	45.0	60.2	81.1	92.2	81.1	60.2
85°	137.0	126.7	80.5	36.8	28.4	35.1	55.3	73.8	80.7	73.8	55.3
87.5°	154.8	150.3	98.1	42.3	8.4	30.2	48.8	67.1	65.6	67.1	48.8
90°	178.5	175.0	122.6	52.1	1.6	19.2	36.8	52.7	48.7	52.7	36.8
92.5°	210.8	203.0	148.0	69.0	14.7	9.2	29.3	42.7	41.1	42.7	29.3
95°	237.1	232.8	176.0	90.9	35.5	4.3	20.1	31.8	31.8	31.8	20.1
97.5°	268.5	261.7	204.2	122.2	62.3	11.3	12.7	23.6	26.1	23.6	12.7
100°	293.2	288.2	237.4	159.4	95.3	29.4	7.8	16.1	20.3	16.1	7.8
102.5°	334.2	322.2	272.1	194.9	130.8	54.5	13.9	10.3	11.9	10.3	13.9
105°	372.5	360.3	315.3	232.2	171.5	88.4	35.5	12.1	7.8	12.1	35.5
107.5°	409.7	401.1	353.4	271.1	214.9	128.1	64.9	33.7	21.6	33.7	64.9
110°	453.1	442.7	390.7	309.3	260.8	169.8	98.7	61.5	47.5	61.5	98.7



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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°	494.7	486.9	425.3	349.0	307.5	214.9	140.3	96.1	83.1	96.1	140.3
115°	527.6	522.4	465.2	386.4	350.9	265.9	186.2	136.9	122.1	136.9	186.2
117.5°	561.3	560.5	495.5	424.5	402.8	311.9	229.5	178.4	162.0	178.4	229.5
120°	603.8	596.9	536.2	463.5	453.0	361.2	276.3	225.2	208.7	225.2	276.3
122.5°	633.3	628.9	570.9	499.9	499.9	410.6	321.3	270.3	252.9	270.3	321.3
125°	660.1	658.4	596.9	536.2	550.1	456.6	371.7	319.6	300.5	319.6	371.7
127.5°	684.4	687.0	630.7	576.1	601.2	503.3	421.0	363.9	344.0	363.9	421.0
130°	706.0	713.9	662.7	612.5	649.8	554.4	465.2	408.0	395.8	408.0	465.2
132.5°	746.8	741.6	695.7	650.6	702.6	602.0	512.0	453.0	438.3	453.0	512.0
135°	767.5	769.3	725.1	682.6	751.1	648.9	557.0	498.1	483.3	498.1	557.0
137.5°	792.7	787.5	747.6	721.6	796.1	693.9	600.3	545.7	522.4	545.7	600.3
140°	810.9	810.0	777.1	756.3	844.7	738.1	644.5	589.0	567.4	589.0	644.5
142.5°	829.9	835.2	806.6	794.5	893.2	784.9	692.1	631.5	610.8	631.5	692.1
145°	843.0	854.2	836.0	842.1	939.1	836.8	733.8	672.2	649.7	672.2	733.8
147.5°	864.6	879.3	857.7	875.8	979.0	882.8	775.3	714.7	694.7	714.7	775.3
150°	894.9	901.8	888.8	922.7	1019.7	933.9	818.6	756.2	736.3	756.2	818.6
152.5°	918.3	926.9	912.3	973.8	1051.8	980.7	865.5	796.1	772.7	796.1	865.5
155°	942.5	946.1	934.8	1023.1	1085.5	1026.7	901.8	840.4	817.8	840.4	901.8
157.5°	965.1	972.0	959.0	1060.4	1115.0	1066.5	944.3	884.5	864.5	884.5	944.3
160°	989.3	989.3	995.4	1103.7	1138.4	1101.1	989.3	933.1	905.3	933.1	989.3
162.5°	991.9	1007.5	1044.8	1134.0	1161.8	1131.4	1037.9	966.8	943.4	966.8	1037.9
165°	1030.0	1043.9	1100.2	1160.9	1180.0	1158.3	1097.6	1024.1	996.3	1024.1	1097.6
167.5°	1069.1	1100.2	1145.3	1190.5	1197.4	1182.6	1143.6	1092.4	1066.5	1092.4	1143.6
170°	1134.0	1160.9	1182.6	1202.5	1212.0	1203.3	1171.3	1147.1	1130.6	1147.1	1171.3
172.5°	1184.3	1202.5	1210.4	1223.3	1217.2	1213.8	1197.4	1186.1	1176.6	1186.1	1197.4
175°	1215.6	1219.9	1228.5	1224.2	1229.4	1219.9	1220.7	1226.0	1189.6	1226.0	1220.7
177.5°	1227.6	1233.7	1230.2	1223.3	1224.1	1222.4	1225.1	1227.6	1222.5	1227.6	1225.1
180°	1228.5	1228.5	1228.5	1228.5	1228.5	1228.5	1228.5	1228.5	1228.5	1228.5	1228.5



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CATALOG NUMBER: MWL-2-35-38-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1416.1	1416.1	1416.1	1416.1	1416.1	1416.1
2.5°	1409.5	1414.5	1410.2	1414.5	1406.9	1409.4
5°	1403.6	1412.7	1403.6	1406.1	1402.6	1398.5
7.5°	1391.9	1383.6	1392.7	1396.1	1395.2	1391.9
10°	1373.5	1372.7	1374.4	1377.7	1380.2	1369.3
12.5°	1353.5	1350.1	1353.5	1361.0	1351.0	1348.5
15°	1326.8	1320.9	1327.6	1335.9	1328.5	1331.8
17.5°	1304.2	1300.9	1304.2	1305.0	1297.6	1302.6
20°	1270.9	1267.5	1271.7	1270.0	1271.7	1264.2
22.5°	1236.6	1241.6	1237.5	1235.0	1234.2	1235.9
25°	1195.7	1197.4	1196.6	1199.2	1189.2	1191.7
27.5°	1158.2	1159.0	1159.0	1156.6	1141.6	1143.3
30°	1112.4	1112.4	1114.1	1112.5	1094.9	1090.7
32.5°	1069.7	1069.0	1071.5	1058.2	1039.0	1042.3
35°	1018.0	1023.1	1020.6	1004.0	976.5	972.2
37.5°	968.0	979.7	970.6	937.2	914.7	911.3
40°	907.1	923.0	908.7	869.6	850.5	860.5
42.5°	844.5	866.2	846.2	802.8	791.2	795.3
45°	777.0	807.0	778.6	734.4	732.7	744.4
47.5°	708.5	745.2	709.4	673.5	675.1	690.1
50°	635.0	667.6	636.7	610.9	627.6	635.1
52.5°	572.4	582.5	574.2	558.3	577.5	587.5
55°	504.0	489.9	505.7	505.0	526.6	530.8
57.5°	431.4	413.1	433.2	448.2	480.7	486.6
60°	362.2	353.0	363.0	389.8	425.7	432.3
62.5°	300.5	297.1	301.2	335.6	374.0	381.5
65°	248.7	255.4	249.6	277.9	316.3	328.9
67.5°	207.0	216.2	207.0	233.7	262.9	282.1
70°	170.3	180.3	170.3	192.0	212.9	233.7
72.5°	138.5	147.6	139.4	154.5	172.0	191.1
75°	110.1	121.0	110.1	119.3	134.4	155.2
77.5°	85.9	96.0	85.9	89.3	113.6	134.7
80°	64.3	72.6	64.3	71.9	107.4	124.3
82.5°	45.0	48.4	45.0	70.6	112.3	125.1
85°	35.1	28.4	36.8	80.5	126.7	137.0
87.5°	30.2	8.4	42.3	98.1	150.3	154.8
90°	19.2	1.6	52.1	122.6	175.0	178.5
92.5°	9.2	14.7	69.0	148.0	203.0	210.8
95°	4.3	35.5	90.9	176.0	232.8	237.1
97.5°	11.3	62.3	122.2	204.2	261.7	268.5
100°	29.4	95.3	159.4	237.4	288.2	293.2
102.5°	54.5	130.8	194.9	272.1	322.2	334.2
105°	88.4	171.5	232.2	315.3	360.3	372.5
107.5°	128.1	214.9	271.1	353.4	401.1	409.7
110°	169.8	260.8	309.3	390.7	442.7	453.1



TEST NUMBER: P392545

CATALOG NUMBER: MWL-2-35-38-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	214.9	307.5	349.0	425.3	486.9	494.7
115°	265.9	350.9	386.4	465.2	522.4	527.6
117.5°	311.9	402.8	424.5	495.5	560.5	561.3
120°	361.2	453.0	463.5	536.2	596.9	603.8
122.5°	410.6	499.9	499.9	570.9	628.9	633.3
125°	456.6	550.1	536.2	596.9	658.4	660.1
127.5°	503.3	601.2	576.1	630.7	687.0	684.4
130°	554.4	649.8	612.5	662.7	713.9	706.0
132.5°	602.0	702.6	650.6	695.7	741.6	746.8
135°	648.9	751.1	682.6	725.1	769.3	767.5
137.5°	693.9	796.1	721.6	747.6	787.5	792.7
140°	738.1	844.7	756.3	777.1	810.0	810.9
142.5°	784.9	893.2	794.5	806.6	835.2	829.9
145°	836.8	939.1	842.1	836.0	854.2	843.0
147.5°	882.8	979.0	875.8	857.7	879.3	864.6
150°	933.9	1019.7	922.7	888.8	901.8	894.9
152.5°	980.7	1051.8	973.8	912.3	926.9	918.3
155°	1026.7	1085.5	1023.1	934.8	946.1	942.5
157.5°	1066.5	1115.0	1060.4	959.0	972.0	965.1
160°	1101.1	1138.4	1103.7	995.4	989.3	989.3
162.5°	1131.4	1161.8	1134.0	1044.8	1007.5	991.9
165°	1158.3	1180.0	1160.9	1100.2	1043.9	1030.0
167.5°	1182.6	1197.4	1190.5	1145.3	1100.2	1069.1
170°	1203.3	1212.0	1202.5	1182.6	1160.9	1134.0
172.5°	1213.8	1217.2	1223.3	1210.4	1202.5	1184.3
175°	1219.9	1229.4	1224.2	1228.5	1219.9	1215.6
177.5°	1222.4	1224.1	1223.3	1230.2	1233.7	1227.6
180°	1228.5	1228.5	1228.5	1228.5	1228.5	1228.5

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