

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: P392609

Luminaire Tested: **MWL-3-44-25-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392609
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-3-44-25-UNV-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

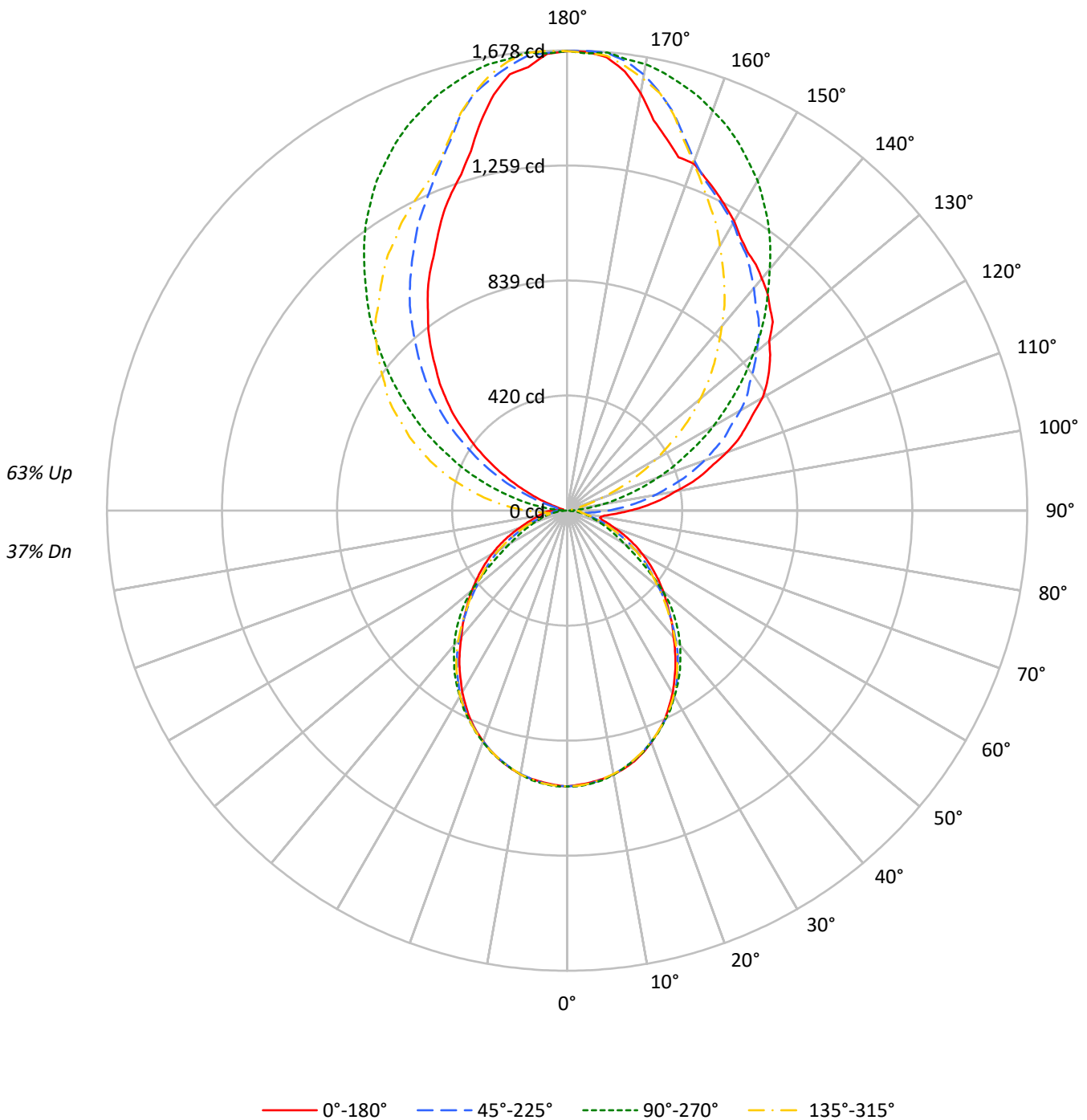
Lumens per Lamp: N/A
Luminaire Lumens: 6314.9 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 79.689
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	104	104	104	104	94	94	94	94	76	76	76		59	59	59		44	44	44	37
1	95	91	87	83	86	82	79	76	67	64	62		52	51	49		39	38	37	31
2	87	79	73	68	78	72	67	63	59	55	52		46	44	42		34	33	32	26
3	79	70	63	57	71	64	58	53	52	47	44		41	38	35		31	29	27	23
4	72	62	54	49	65	57	50	45	46	41	38		37	33	30		28	25	24	20
5	66	55	47	42	60	50	44	39	41	36	32		33	29	27		25	23	21	17
6	61	50	42	36	55	45	38	34	37	32	28		30	26	23		23	20	18	15
7	57	45	37	32	51	41	34	29	34	29	25		27	23	21		21	18	16	14
8	52	41	33	28	48	37	31	26	31	26	22		25	21	18		19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20		23	19	17		18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18		21	17	15		16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8662	8662	8662	8662
5°	8498	7947	8498	7947
10°	8341	7267	8341	7267
15°	8133	6626	8103	6626
20°	7841	6036	7810	6036
25°	7506	5468	7475	5468
30°	7081	4934	7037	4934
35°	6600	4429	6566	4429
40°	6083	3918	6035	3918
45°	5638	3387	5601	3387
50°	5245	2774	5203	2774
55°	4835	2067	4805	2067
60°	4391	1515	4374	1515
65°	3903	1149	3903	1149
70°	3331	849	3353	849
75°	2908	617	2984	617
80°	3515	401	2890	401
85°	6209	176	3272	176



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.6	1.5
10°-20°	265.5	4.2
20°-30°	387.6	6.1
30°-40°	438.0	6.9
40°-50°	410.0	6.5
50°-60°	323.8	5.1
60°-70°	211.9	3.4
70°-80°	111.1	1.8
80°-90°	77.8	1.2
90°-100°	132.0	2.1
100°-110°	259.1	4.1
110°-120°	444.8	7.0
120°-130°	604.2	9.6
130°-140°	689.4	10.9
140°-150°	687.8	10.9
150°-160°	599.0	9.5
160°-170°	421.4	6.7
170°-180°	157.0	2.5
0°-30°	747.7	11.8
0°-40°	1185.7	18.8
0°-60°	1919.4	30.4
0°-90°	2320.2	36.7
90°-120°	835.8	13.2
90°-150°	2817.3	44.6
90°-180°	3995.0	63.3
0°-180°	6314.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1006	1006	1006	1006	1006	
5°	995	1000	995	1000	995	94
15°	946	942	943	942	946	266
25°	841	844	838	844	841	386
35°	689	716	685	716	689	430
45°	527	556	524	556	527	408
55°	386	334	384	334	386	346
65°	249	177	249	177	249	247
75°	133	88	136	88	133	149
85°	163	22	86	22	163	125
90°	229	1	51	1	229	126
95°	314	48	34	48	314	275
105°	512	234	14	234	512	539
115°	719	478	165	478	719	713
125°	900	749	409	749	900	804
135°	1046	1022	658	1022	1046	807
145°	1148	1279	885	1279	1148	724
155°	1284	1479	1113	1479	1284	592
165°	1403	1610	1357	1610	1403	398
175°	1659	1676	1623	1676	1659	155
180°	1675	1675	1675	1675	1675	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1005.9	1005.9	1005.9	1005.9	1005.9	1005.9	1005.9	1005.9	1005.9	1005.9	1005.9
2.5°	1000.5	1004.7	1003.4	1005.5	1006.4	1004.3	1003.4	1004.7	1001.7	1004.7	1003.4
5°	995.0	999.2	998.8	998.8	999.8	998.8	997.7	999.2	995.0	999.2	997.7
7.5°	987.1	990.4	988.5	990.6	991.6	989.5	987.4	989.2	987.1	989.2	987.4
10°	977.3	977.6	976.7	977.6	977.6	976.4	975.5	975.2	977.3	975.2	975.5
12.5°	963.3	961.2	960.0	961.8	960.7	961.8	960.0	958.8	960.9	958.8	960.0
15°	946.3	943.9	941.8	943.6	942.4	942.4	940.6	941.5	942.7	941.5	940.6
17.5°	924.4	922.0	920.8	922.4	922.4	922.4	919.7	920.8	920.8	920.8	919.7
20°	898.9	899.5	897.2	899.6	898.4	898.4	896.0	897.2	895.3	897.2	896.0
22.5°	870.4	872.2	871.6	873.2	872.9	872.0	870.5	869.8	868.0	869.8	870.5
25°	841.2	840.3	843.7	846.8	843.8	845.6	841.3	836.8	837.7	836.8	841.3
27.5°	804.8	810.2	813.6	817.9	816.4	816.7	811.2	806.7	801.2	806.7	811.2
30°	769.2	772.0	781.1	786.3	782.7	783.9	777.5	768.4	764.5	768.4	777.5
32.5°	728.3	733.8	743.8	752.6	750.2	750.2	740.3	729.1	723.6	729.1	740.3
35°	688.9	690.7	703.5	716.2	716.3	712.7	699.9	687.2	685.3	687.2	699.9
37.5°	646.1	647.9	662.5	677.9	677.4	674.4	658.9	644.3	642.5	644.3	658.9
40°	604.2	605.1	616.9	636.7	641.0	634.3	612.2	600.3	599.4	600.3	612.2
42.5°	567.7	561.3	569.3	592.9	600.0	590.6	565.7	556.6	563.0	556.6	565.7
45°	527.3	520.1	524.6	546.5	556.2	544.1	519.9	516.5	523.8	516.5	519.9
47.5°	490.9	481.8	480.9	496.1	510.7	494.9	476.1	478.2	487.3	478.2	476.1
50°	456.3	445.3	437.1	447.8	453.9	445.4	432.4	440.6	452.7	440.6	432.4
52.5°	421.7	410.7	397.7	400.4	392.9	398.1	394.1	406.0	418.1	406.0	394.1
55°	385.9	376.7	361.3	351.9	334.3	349.5	357.7	373.2	383.5	373.2	357.7
57.5°	352.1	344.9	325.7	305.4	284.2	303.0	322.2	341.3	349.8	341.3	322.2
60°	316.3	312.7	287.2	257.8	240.4	256.6	284.8	310.3	315.1	310.3	284.8
62.5°	284.4	278.1	250.7	216.8	204.6	215.6	248.4	275.7	283.3	275.7	248.4
65°	248.6	244.1	213.1	183.0	177.3	181.9	211.9	242.9	248.6	242.9	211.9
67.5°	216.8	207.6	182.1	150.0	150.0	150.0	180.9	206.5	216.8	206.5	180.9
70°	182.8	173.7	150.0	125.4	126.3	125.4	150.0	174.8	184.0	174.8	150.0
72.5°	156.3	142.7	122.6	102.6	105.0	101.4	122.6	143.9	158.7	143.9	122.6
75°	132.7	116.3	96.8	83.2	87.7	83.2	98.0	117.4	136.2	117.4	98.0
77.5°	122.1	98.2	75.9	65.0	70.4	65.0	77.1	94.7	117.3	94.7	77.1
80°	126.7	98.4	63.0	49.5	54.0	49.5	60.7	79.4	104.2	79.4	60.7
82.5°	137.8	112.6	66.3	35.8	37.6	35.8	52.1	70.0	92.8	70.0	52.1
85°	162.6	138.0	84.2	30.2	22.1	27.9	49.8	65.9	85.7	65.9	49.8
87.5°	193.4	174.6	112.1	42.5	6.4	26.0	44.6	61.0	71.5	61.0	44.6
90°	228.6	213.2	149.2	61.0	1.2	16.0	32.1	46.3	51.1	46.3	32.1
92.5°	272.5	256.5	187.6	92.2	19.9	10.6	25.4	37.5	40.5	37.5	25.4
95°	314.1	305.2	233.0	124.9	48.3	6.6	20.0	30.6	33.6	30.6	20.0
97.5°	359.8	352.0	278.7	166.6	84.9	15.1	17.1	26.6	28.4	26.6	17.1
100°	399.6	396.6	326.4	217.5	129.9	40.0	12.8	25.0	26.8	25.0	12.8
102.5°	461.6	444.6	371.4	266.0	178.5	74.3	18.7	18.6	21.3	18.6	18.7
105°	512.0	492.7	429.3	316.9	234.1	120.4	47.1	16.9	13.8	16.9	47.1
107.5°	559.2	547.4	481.4	369.0	293.3	173.7	87.3	45.6	29.1	45.6	87.3
110°	618.5	604.2	532.4	421.0	354.8	230.5	133.5	83.5	64.5	83.5	133.5



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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°	675.2	664.6	579.6	475.5	418.7	292.1	190.2	130.8	113.1	130.8	190.2
115°	719.0	713.1	634.1	526.4	477.9	361.9	253.0	186.4	165.2	186.4	253.0
117.5°	765.1	764.0	674.3	578.5	548.8	424.6	311.0	242.1	219.6	242.1	311.0
120°	823.1	813.6	730.0	630.6	616.4	490.9	374.9	305.9	283.5	305.9	374.9
122.5°	863.4	857.4	777.3	680.2	680.2	558.3	436.4	367.5	343.8	367.5	436.4
125°	900.0	897.7	812.7	730.0	748.8	621.1	505.1	435.0	409.0	435.0	505.1
127.5°	933.1	936.7	858.9	784.3	818.6	685.0	572.5	495.4	468.1	495.4	572.5
130°	961.6	973.4	902.6	834.0	885.0	754.8	632.9	555.7	538.0	555.7	632.9
132.5°	1017.2	1010.1	948.5	885.0	955.9	818.6	697.7	616.1	596.0	616.1	697.7
135°	1045.6	1047.9	987.6	928.7	1022.2	882.6	758.0	677.6	657.5	677.6	758.0
137.5°	1079.9	1072.8	1017.5	982.0	1083.8	944.1	816.3	742.7	710.7	742.7	816.3
140°	1104.8	1103.6	1058.6	1030.2	1150.0	1005.4	877.6	801.8	772.2	801.8	877.6
142.5°	1130.9	1138.0	1098.9	1081.4	1216.3	1068.4	942.6	859.8	831.4	859.8	942.6
145°	1148.5	1163.9	1139.1	1147.3	1279.0	1140.2	999.5	915.4	884.7	915.4	999.5
147.5°	1178.1	1198.3	1168.7	1193.5	1333.5	1203.0	1056.2	973.4	946.2	973.4	1056.2
150°	1218.4	1227.9	1210.1	1257.5	1389.1	1272.8	1114.3	1029.0	1001.8	1029.0	1114.3
152.5°	1250.4	1262.1	1241.2	1326.4	1432.9	1335.9	1177.2	1083.5	1051.5	1083.5	1177.2
155°	1283.5	1288.2	1274.0	1393.8	1479.1	1398.5	1229.1	1143.8	1113.1	1143.8	1229.1
157.5°	1314.3	1323.7	1307.2	1444.7	1519.3	1453.0	1287.0	1204.2	1177.0	1204.2	1287.0
160°	1347.4	1347.4	1356.9	1504.8	1552.4	1501.2	1348.6	1270.4	1232.6	1270.4	1348.6
162.5°	1351.0	1372.6	1424.3	1546.2	1585.3	1542.7	1414.8	1316.9	1284.7	1316.9	1414.8
165°	1403.0	1422.2	1500.0	1582.9	1610.2	1579.4	1496.6	1395.0	1356.9	1395.0	1496.6
167.5°	1457.5	1499.1	1561.6	1624.3	1633.8	1613.7	1559.3	1488.6	1453.9	1488.6	1559.3
170°	1545.3	1582.0	1613.7	1639.7	1652.7	1640.9	1598.3	1563.1	1540.6	1563.1	1598.3
172.5°	1615.2	1638.8	1651.6	1668.1	1659.8	1655.1	1633.8	1616.3	1604.5	1616.3	1633.8
175°	1658.9	1663.7	1675.2	1669.3	1676.4	1663.4	1664.6	1672.0	1623.4	1672.0	1664.6
177.5°	1674.3	1682.6	1677.6	1666.9	1668.1	1665.8	1670.5	1674.3	1667.2	1674.3	1670.5
180°	1675.2	1675.2	1675.2	1675.2	1675.2	1675.2	1675.2	1675.2	1675.2	1675.2	1675.2



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CATALOG NUMBER: MWL-3-44-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1005.9	1005.9	1005.9	1005.9	1005.9	1005.9
2.5°	1004.3	1006.4	1005.5	1003.4	1004.7	1000.5
5°	998.8	999.8	998.8	998.8	999.2	995.0
7.5°	989.5	991.6	990.6	988.5	990.4	987.1
10°	976.4	977.6	977.6	976.7	977.6	977.3
12.5°	961.8	960.7	961.8	960.0	961.2	963.3
15°	942.4	942.4	943.6	941.8	943.9	946.3
17.5°	922.4	922.4	922.4	920.8	922.0	924.4
20°	898.4	898.4	899.6	897.2	899.5	898.9
22.5°	872.0	872.9	873.2	871.6	872.2	870.4
25°	845.6	843.8	846.8	843.7	840.3	841.2
27.5°	816.7	816.4	817.9	813.6	810.2	804.8
30°	783.9	782.7	786.3	781.1	772.0	769.2
32.5°	750.2	750.2	752.6	743.8	733.8	728.3
35°	712.7	716.3	716.2	703.5	690.7	688.9
37.5°	674.4	677.4	677.9	662.5	647.9	646.1
40°	634.3	641.0	636.7	616.9	605.1	604.2
42.5°	590.6	600.0	592.9	569.3	561.3	567.7
45°	544.1	556.2	546.5	524.6	520.1	527.3
47.5°	494.9	510.7	496.1	480.9	481.8	490.9
50°	445.4	453.9	447.8	437.1	445.3	456.3
52.5°	398.1	392.9	400.4	397.7	410.7	421.7
55°	349.5	334.3	351.9	361.3	376.7	385.9
57.5°	303.0	284.2	305.4	325.7	344.9	352.1
60°	256.6	240.4	257.8	287.2	312.7	316.3
62.5°	215.6	204.6	216.8	250.7	278.1	284.4
65°	181.9	177.3	183.0	213.1	244.1	248.6
67.5°	150.0	150.0	150.0	182.1	207.6	216.8
70°	125.4	126.3	125.4	150.0	173.7	182.8
72.5°	101.4	105.0	102.6	122.6	142.7	156.3
75°	83.2	87.7	83.2	96.8	116.3	132.7
77.5°	65.0	70.4	65.0	75.9	98.2	122.1
80°	49.5	54.0	49.5	63.0	98.4	126.7
82.5°	35.8	37.6	35.8	66.3	112.6	137.8
85°	27.9	22.1	30.2	84.2	138.0	162.6
87.5°	26.0	6.4	42.5	112.1	174.6	193.4
90°	16.0	1.2	61.0	149.2	213.2	228.6
92.5°	10.6	19.9	92.2	187.6	256.5	272.5
95°	6.6	48.3	124.9	233.0	305.2	314.1
97.5°	15.1	84.9	166.6	278.7	352.0	359.8
100°	40.0	129.9	217.5	326.4	396.6	399.6
102.5°	74.3	178.5	266.0	371.4	444.6	461.6
105°	120.4	234.1	316.9	429.3	492.7	512.0
107.5°	173.7	293.3	369.0	481.4	547.4	559.2
110°	230.5	354.8	421.0	532.4	604.2	618.5



TEST NUMBER: P392609

CATALOG NUMBER: MWL-3-44-25-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	292.1	418.7	475.5	579.6	664.6	675.2
115°	361.9	477.9	526.4	634.1	713.1	719.0
117.5°	424.6	548.8	578.5	674.3	764.0	765.1
120°	490.9	616.4	630.6	730.0	813.6	823.1
122.5°	558.3	680.2	680.2	777.3	857.4	863.4
125°	621.1	748.8	730.0	812.7	897.7	900.0
127.5°	685.0	818.6	784.3	858.9	936.7	933.1
130°	754.8	885.0	834.0	902.6	973.4	961.6
132.5°	818.6	955.9	885.0	948.5	1010.1	1017.2
135°	882.6	1022.2	928.7	987.6	1047.9	1045.6
137.5°	944.1	1083.8	982.0	1017.5	1072.8	1079.9
140°	1005.4	1150.0	1030.2	1058.6	1103.6	1104.8
142.5°	1068.4	1216.3	1081.4	1098.9	1138.0	1130.9
145°	1140.2	1279.0	1147.3	1139.1	1163.9	1148.5
147.5°	1203.0	1333.5	1193.5	1168.7	1198.3	1178.1
150°	1272.8	1389.1	1257.5	1210.1	1227.9	1218.4
152.5°	1335.9	1432.9	1326.4	1241.2	1262.1	1250.4
155°	1398.5	1479.1	1393.8	1274.0	1288.2	1283.5
157.5°	1453.0	1519.3	1444.7	1307.2	1323.7	1314.3
160°	1501.2	1552.4	1504.8	1356.9	1347.4	1347.4
162.5°	1542.7	1585.3	1546.2	1424.3	1372.6	1351.0
165°	1579.4	1610.2	1582.9	1500.0	1422.2	1403.0
167.5°	1613.7	1633.8	1624.3	1561.6	1499.1	1457.5
170°	1640.9	1652.7	1639.7	1613.7	1582.0	1545.3
172.5°	1655.1	1659.8	1668.1	1651.6	1638.8	1615.2
175°	1663.4	1676.4	1669.3	1675.2	1663.7	1658.9
177.5°	1665.8	1668.1	1666.9	1677.6	1682.6	1674.3
180°	1675.2	1675.2	1675.2	1675.2	1675.2	1675.2

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