

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: P392608

Luminaire Tested: **MWL-3-44-25-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392608
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-L935-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

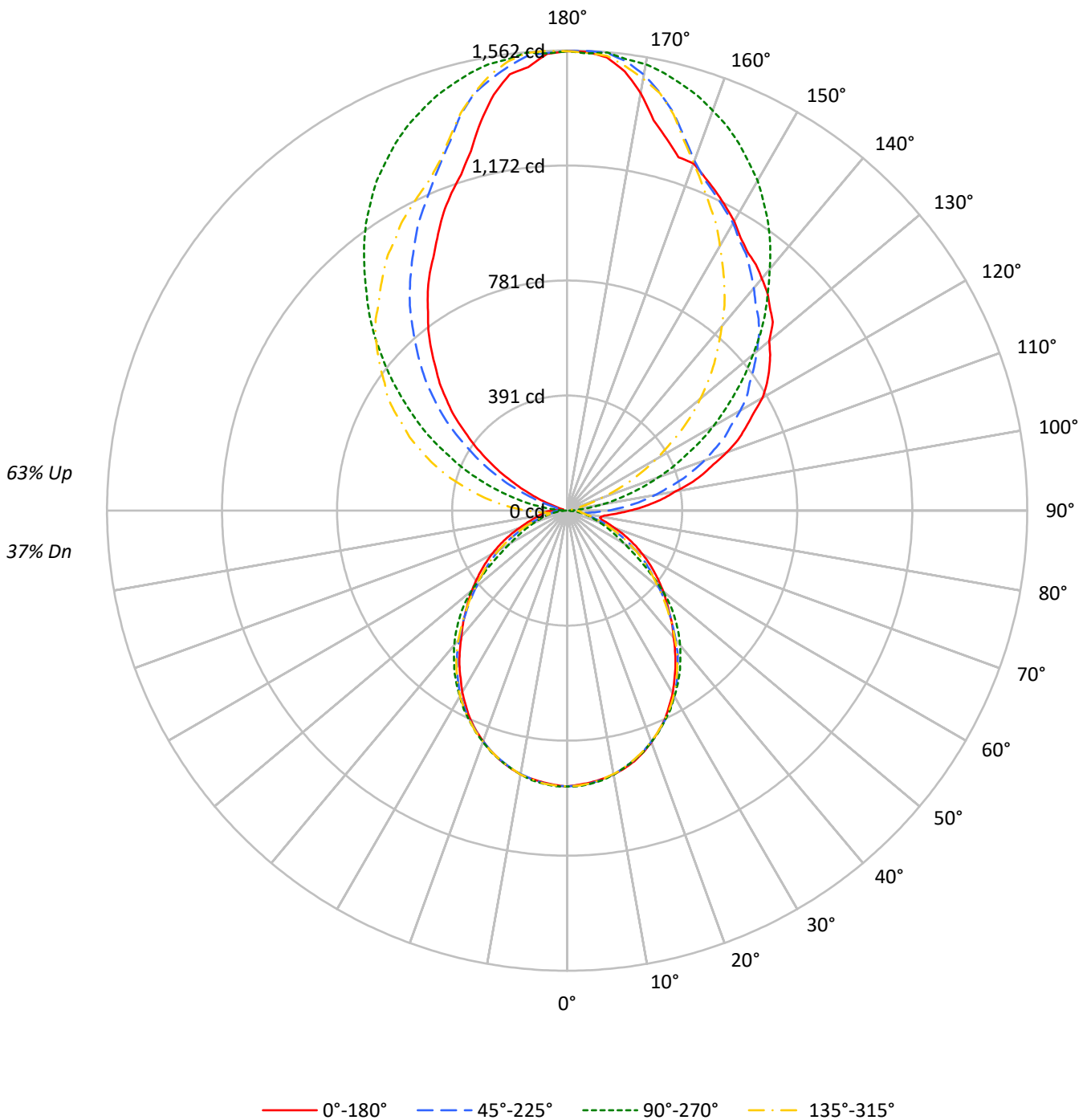
Lumens per Lamp: N/A
Luminaire Lumens: 5878.0 lumens
Efficiency: N/A
Efficacy: 73.8 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Indirect

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°	8063	8063	8063	8063
5°	7910	7397	7910	7397
10°	7765	6764	7765	6764
15°	7570	6168	7543	6168
20°	7299	5619	7270	5619
25°	6988	5089	6958	5089
30°	6592	4593	6550	4593
35°	6143	4123	6111	4123
40°	5662	3647	5618	3647
45°	5248	3152	5213	3152
50°	4882	2582	4844	2582
55°	4499	1924	4471	1924
60°	4087	1411	4072	1411
65°	3633	1069	3633	1069
70°	3100	789	3120	789
75°	2706	574	2779	574
80°	3273	374	2691	374
85°	5781	164	3047	164



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.1	1.5
10°-20°	247.1	4.2
20°-30°	360.8	6.1
30°-40°	407.7	6.9
40°-50°	381.6	6.5
50°-60°	301.4	5.1
60°-70°	197.2	3.4
70°-80°	103.4	1.8
80°-90°	72.4	1.2
90°-100°	122.8	2.1
100°-110°	241.2	4.1
110°-120°	414.0	7.0
120°-130°	562.4	9.6
130°-140°	641.7	10.9
140°-150°	640.3	10.9
150°-160°	557.5	9.5
160°-170°	392.3	6.7
170°-180°	146.1	2.5
0°-30°	696.0	11.8
0°-40°	1103.7	18.8
0°-60°	1786.6	30.4
0°-90°	2159.7	36.7
90°-120°	778.0	13.2
90°-150°	2622.4	44.6
90°-180°	3718.0	63.3
0°-180°	5878.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	936	936	936	936	936	
5°	926	931	926	931	926	88
15°	881	877	878	877	881	248
25°	783	785	780	785	783	359
35°	641	667	638	667	641	400
45°	491	518	488	518	491	380
55°	359	311	357	311	359	322
65°	231	165	231	165	231	230
75°	124	82	127	82	124	139
85°	151	21	80	21	151	117
90°	213	1	48	1	213	118
95°	292	45	31	45	292	256
105°	477	218	13	218	477	502
115°	669	445	154	445	669	664
125°	838	697	381	697	838	748
135°	973	952	612	952	973	751
145°	1069	1190	824	1190	1069	674
155°	1195	1377	1036	1377	1195	551
165°	1306	1499	1263	1499	1306	370
175°	1544	1560	1511	1560	1544	144
180°	1559	1559	1559	1559	1559	



TEST NUMBER: P392608

CATALOG NUMBER: MWL-3-44-25-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	936.3	936.3	936.3	936.3	936.3	936.3	936.3	936.3	936.3	936.3	936.3
2.5°	931.3	935.2	934.0	936.0	936.9	934.9	934.0	935.2	932.4	935.2	934.0
5°	926.2	930.1	929.8	929.8	930.6	929.8	928.7	930.1	926.2	930.1	928.7
7.5°	918.8	921.9	920.2	922.2	923.0	921.1	919.1	920.8	918.8	920.8	919.1
10°	909.8	910.0	909.2	910.0	910.0	908.9	908.1	907.9	909.8	907.9	908.1
12.5°	896.7	894.7	893.6	895.3	894.2	895.3	893.6	892.6	894.5	892.6	893.6
15°	880.8	878.6	876.7	878.4	877.3	877.3	875.6	876.4	877.6	876.4	875.6
17.5°	860.5	858.3	857.2	858.7	858.7	858.7	856.1	857.2	857.2	857.2	856.1
20°	836.8	837.4	835.1	837.4	836.3	836.3	834.1	835.1	833.5	835.1	834.1
22.5°	810.2	811.9	811.4	812.9	812.6	811.7	810.3	809.7	808.0	809.7	810.3
25°	783.1	782.2	785.3	788.3	785.4	787.1	783.2	778.9	779.8	778.9	783.2
27.5°	749.2	754.3	757.4	761.3	760.0	760.3	755.2	750.9	745.8	750.9	755.2
30°	716.1	718.6	727.1	731.9	728.6	729.8	723.8	715.3	711.6	715.3	723.8
32.5°	677.9	683.0	692.3	700.6	698.3	698.3	689.0	678.6	673.5	678.6	689.0
35°	641.2	642.9	654.8	666.7	666.8	663.3	651.5	639.6	637.9	639.6	651.5
37.5°	601.4	603.0	616.6	631.0	630.5	627.7	613.3	599.7	598.0	599.7	613.3
40°	562.4	563.2	574.2	592.6	596.6	590.4	569.8	558.7	558.0	558.7	569.8
42.5°	528.4	522.5	529.8	551.9	558.5	549.7	526.5	518.1	524.0	518.1	526.5
45°	490.8	484.1	488.3	508.7	517.7	506.4	483.9	480.7	487.5	480.7	483.9
47.5°	456.9	448.4	447.6	461.7	475.3	460.6	443.2	445.2	453.6	445.2	443.2
50°	424.7	414.5	406.9	416.8	422.5	414.6	402.5	410.1	421.4	410.1	402.5
52.5°	392.4	382.3	370.2	372.7	365.7	370.5	366.8	377.9	389.2	377.9	366.8
55°	359.1	350.7	336.3	327.5	311.2	325.3	332.9	347.3	356.9	347.3	332.9
57.5°	327.7	321.0	303.1	284.2	264.5	282.1	299.9	317.6	325.6	317.6	299.9
60°	294.4	291.1	267.3	239.9	223.8	238.8	265.1	288.8	293.3	288.8	265.1
62.5°	264.7	258.8	233.4	201.7	190.4	200.6	231.2	256.6	263.6	256.6	231.2
65°	231.4	227.2	198.4	170.3	165.0	169.3	197.3	226.1	231.4	226.1	197.3
67.5°	201.7	193.3	169.6	139.6	139.6	139.6	168.4	192.2	201.7	192.2	168.4
70°	170.1	161.6	139.6	116.7	117.5	116.7	139.6	162.7	171.2	162.7	139.6
72.5°	145.5	132.8	114.2	95.5	97.8	94.4	114.2	133.9	147.7	133.9	114.2
75°	123.5	108.2	90.2	77.4	81.6	77.4	91.2	109.3	126.8	109.3	91.2
77.5°	113.6	91.4	70.7	60.5	65.6	60.5	71.7	88.1	109.2	88.1	71.7
80°	118.0	91.6	58.7	46.1	50.3	46.1	56.5	74.0	97.0	74.0	56.5
82.5°	128.2	104.8	61.7	33.3	35.0	33.3	48.5	65.1	86.4	65.1	48.5
85°	151.4	128.5	78.4	28.1	20.6	26.0	46.4	61.4	79.8	61.4	46.4
87.5°	180.0	162.5	104.3	39.6	6.0	24.2	41.6	56.7	66.5	56.7	41.6
90°	212.8	198.5	138.9	56.8	1.1	14.9	29.9	43.1	47.5	43.1	29.9
92.5°	253.6	238.7	174.7	85.9	18.5	9.8	23.6	34.9	37.7	34.9	23.6
95°	292.4	284.1	216.8	116.2	45.0	6.1	18.6	28.5	31.3	28.5	18.6
97.5°	334.9	327.6	259.4	155.1	79.0	14.1	16.0	24.8	26.5	24.8	16.0
100°	371.9	369.1	303.8	202.4	120.9	37.2	12.0	23.2	24.9	23.2	12.0
102.5°	429.6	413.8	345.7	247.7	166.1	69.1	17.3	17.3	19.8	17.3	17.3
105°	476.6	458.6	399.6	294.9	217.9	112.1	43.8	15.8	12.8	15.8	43.8
107.5°	520.5	509.5	448.1	343.4	273.0	161.7	81.2	42.5	27.1	42.5	81.2
110°	575.6	562.4	495.5	391.8	330.2	214.5	124.3	77.7	60.1	77.7	124.3



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CATALOG NUMBER: MWL-3-44-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	628.5	618.5	539.5	442.6	389.8	271.9	177.1	121.8	105.3	121.8	177.1
115°	669.3	663.7	590.2	490.0	444.8	336.9	235.5	173.5	153.8	173.5	235.5
117.5°	712.2	711.2	627.6	538.4	510.8	395.2	289.4	225.3	204.3	225.3	289.4
120°	766.2	757.4	679.4	586.9	573.7	456.9	349.0	284.8	263.9	284.8	349.0
122.5°	803.7	798.2	723.5	633.1	633.1	519.6	406.2	342.1	320.0	342.1	406.2
125°	837.8	835.6	756.5	679.4	697.1	578.1	470.1	404.9	380.7	404.9	470.1
127.5°	868.7	872.0	799.6	730.1	762.0	637.5	532.9	461.0	435.7	461.0	532.9
130°	895.1	906.1	840.2	776.4	823.8	702.6	589.1	517.2	500.7	517.2	589.1
132.5°	946.9	940.3	883.0	823.8	889.8	762.0	649.4	573.4	554.7	573.4	649.4
135°	973.3	975.5	919.3	864.5	951.5	821.6	705.7	630.7	612.1	630.7	705.7
137.5°	1005.3	998.6	947.2	914.1	1008.8	878.8	759.9	691.4	661.6	691.4	759.9
140°	1028.4	1027.3	985.4	958.9	1070.5	935.9	816.9	746.3	718.9	746.3	816.9
142.5°	1052.7	1059.3	1022.9	1006.6	1132.2	994.5	877.5	800.3	773.9	800.3	877.5
145°	1069.1	1083.5	1060.3	1068.0	1190.5	1061.4	930.4	852.1	823.6	852.1	930.4
147.5°	1096.7	1115.4	1087.9	1111.0	1241.3	1119.8	983.2	906.1	880.8	906.1	983.2
150°	1134.2	1143.0	1126.4	1170.5	1293.0	1184.8	1037.2	957.8	932.6	957.8	1037.2
152.5°	1164.0	1174.8	1155.3	1234.6	1333.8	1243.4	1095.8	1008.6	978.8	1008.6	1095.8
155°	1194.7	1199.1	1185.9	1297.4	1376.8	1301.9	1144.1	1064.7	1036.1	1064.7	1144.1
157.5°	1223.3	1232.2	1216.8	1344.8	1414.2	1352.5	1198.1	1120.9	1095.5	1120.9	1198.1
160°	1254.2	1254.2	1263.0	1400.7	1445.0	1397.4	1255.3	1182.6	1147.4	1182.6	1255.3
162.5°	1257.6	1277.6	1325.8	1439.3	1475.6	1436.0	1317.0	1225.8	1195.8	1225.8	1317.0
165°	1306.0	1323.9	1396.3	1473.5	1498.8	1470.1	1393.1	1298.5	1263.0	1298.5	1393.1
167.5°	1356.7	1395.4	1453.6	1512.0	1520.8	1502.1	1451.4	1385.6	1353.4	1385.6	1451.4
170°	1438.5	1472.6	1502.1	1526.3	1538.4	1527.4	1487.8	1454.9	1434.1	1454.9	1487.8
172.5°	1503.5	1525.4	1537.3	1552.8	1545.0	1540.6	1520.8	1504.5	1493.6	1504.5	1520.8
175°	1544.2	1548.6	1559.3	1553.8	1560.5	1548.3	1549.4	1556.3	1511.1	1556.3	1549.4
177.5°	1558.5	1566.2	1561.6	1551.7	1552.8	1550.5	1554.9	1558.5	1551.9	1558.5	1554.9
180°	1559.3	1559.3	1559.3	1559.3	1559.3	1559.3	1559.3	1559.3	1559.3	1559.3	1559.3



TEST NUMBER: P392608

CATALOG NUMBER: MWL-3-44-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	936.3	936.3	936.3	936.3	936.3	936.3
2.5°	934.9	936.9	936.0	934.0	935.2	931.3
5°	929.8	930.6	929.8	929.8	930.1	926.2
7.5°	921.1	923.0	922.2	920.2	921.9	918.8
10°	908.9	910.0	910.0	909.2	910.0	909.8
12.5°	895.3	894.2	895.3	893.6	894.7	896.7
15°	877.3	877.3	878.4	876.7	878.6	880.8
17.5°	858.7	858.7	858.7	857.2	858.3	860.5
20°	836.3	836.3	837.4	835.1	837.4	836.8
22.5°	811.7	812.6	812.9	811.4	811.9	810.2
25°	787.1	785.4	788.3	785.3	782.2	783.1
27.5°	760.3	760.0	761.3	757.4	754.3	749.2
30°	729.8	728.6	731.9	727.1	718.6	716.1
32.5°	698.3	698.3	700.6	692.3	683.0	677.9
35°	663.3	666.8	666.7	654.8	642.9	641.2
37.5°	627.7	630.5	631.0	616.6	603.0	601.4
40°	590.4	596.6	592.6	574.2	563.2	562.4
42.5°	549.7	558.5	551.9	529.8	522.5	528.4
45°	506.4	517.7	508.7	488.3	484.1	490.8
47.5°	460.6	475.3	461.7	447.6	448.4	456.9
50°	414.6	422.5	416.8	406.9	414.5	424.7
52.5°	370.5	365.7	372.7	370.2	382.3	392.4
55°	325.3	311.2	327.5	336.3	350.7	359.1
57.5°	282.1	264.5	284.2	303.1	321.0	327.7
60°	238.8	223.8	239.9	267.3	291.1	294.4
62.5°	200.6	190.4	201.7	233.4	258.8	264.7
65°	169.3	165.0	170.3	198.4	227.2	231.4
67.5°	139.6	139.6	139.6	169.6	193.3	201.7
70°	116.7	117.5	116.7	139.6	161.6	170.1
72.5°	94.4	97.8	95.5	114.2	132.8	145.5
75°	77.4	81.6	77.4	90.2	108.2	123.5
77.5°	60.5	65.6	60.5	70.7	91.4	113.6
80°	46.1	50.3	46.1	58.7	91.6	118.0
82.5°	33.3	35.0	33.3	61.7	104.8	128.2
85°	26.0	20.6	28.1	78.4	128.5	151.4
87.5°	24.2	6.0	39.6	104.3	162.5	180.0
90°	14.9	1.1	56.8	138.9	198.5	212.8
92.5°	9.8	18.5	85.9	174.7	238.7	253.6
95°	6.1	45.0	116.2	216.8	284.1	292.4
97.5°	14.1	79.0	155.1	259.4	327.6	334.9
100°	37.2	120.9	202.4	303.8	369.1	371.9
102.5°	69.1	166.1	247.7	345.7	413.8	429.6
105°	112.1	217.9	294.9	399.6	458.6	476.6
107.5°	161.7	273.0	343.4	448.1	509.5	520.5
110°	214.5	330.2	391.8	495.5	562.4	575.6



TEST NUMBER: P392608

CATALOG NUMBER: MWL-3-44-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	271.9	389.8	442.6	539.5	618.5	628.5
115°	336.9	444.8	490.0	590.2	663.7	669.3
117.5°	395.2	510.8	538.4	627.6	711.2	712.2
120°	456.9	573.7	586.9	679.4	757.4	766.2
122.5°	519.6	633.1	633.1	723.5	798.2	803.7
125°	578.1	697.1	679.4	756.5	835.6	837.8
127.5°	637.5	762.0	730.1	799.6	872.0	868.7
130°	702.6	823.8	776.4	840.2	906.1	895.1
132.5°	762.0	889.8	823.8	883.0	940.3	946.9
135°	821.6	951.5	864.5	919.3	975.5	973.3
137.5°	878.8	1008.8	914.1	947.2	998.6	1005.3
140°	935.9	1070.5	958.9	985.4	1027.3	1028.4
142.5°	994.5	1132.2	1006.6	1022.9	1059.3	1052.7
145°	1061.4	1190.5	1068.0	1060.3	1083.5	1069.1
147.5°	1119.8	1241.3	1111.0	1087.9	1115.4	1096.7
150°	1184.8	1293.0	1170.5	1126.4	1143.0	1134.2
152.5°	1243.4	1333.8	1234.6	1155.3	1174.8	1164.0
155°	1301.9	1376.8	1297.4	1185.9	1199.1	1194.7
157.5°	1352.5	1414.2	1344.8	1216.8	1232.2	1223.3
160°	1397.4	1445.0	1400.7	1263.0	1254.2	1254.2
162.5°	1436.0	1475.6	1439.3	1325.8	1277.6	1257.6
165°	1470.1	1498.8	1473.5	1396.3	1323.9	1306.0
167.5°	1502.1	1520.8	1512.0	1453.6	1395.4	1356.7
170°	1527.4	1538.4	1526.3	1502.1	1472.6	1438.5
172.5°	1540.6	1545.0	1552.8	1537.3	1525.4	1503.5
175°	1548.3	1560.5	1553.8	1559.3	1548.6	1544.2
177.5°	1550.5	1552.8	1551.7	1561.6	1566.2	1558.5
180°	1559.3	1559.3	1559.3	1559.3	1559.3	1559.3

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