

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: P392611

Luminaire Tested: **MWL-3-44-28-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392611
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-3-44-28-UNV-L935-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

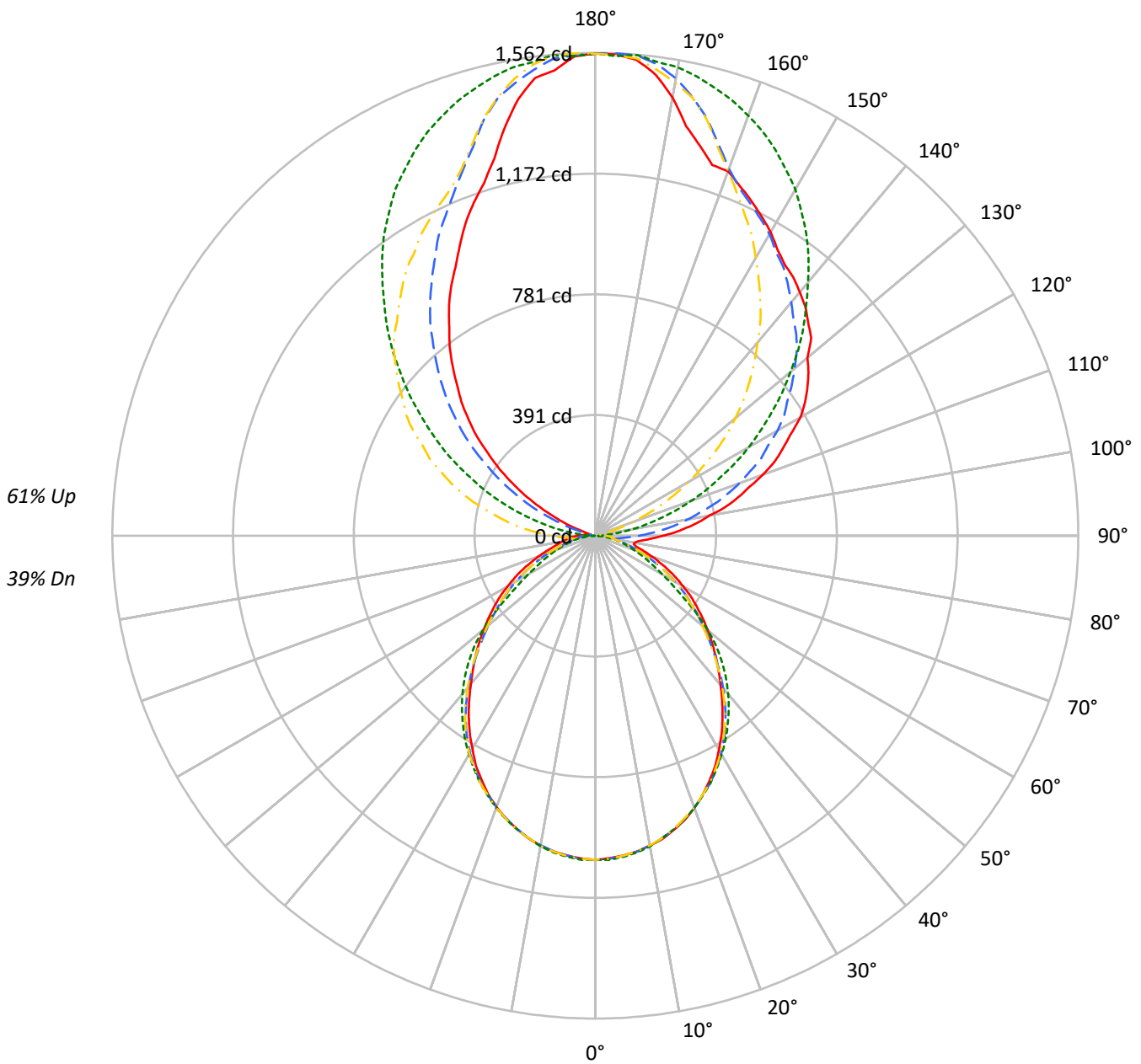
Lumens per Lamp: N/A
Luminaire Lumens: 6135.2 lumens
Efficiency: N/A
Efficacy: 73.5 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 83.426
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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46	39
1	95	91	87	84	87	83	80	77	68	66	64	54	52	51	41	40	39	33
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	36	35	33	28
3	80	70	63	58	72	64	58	53	53	48	45	42	39	37	32	30	29	24
4	73	62	55	49	66	57	51	45	47	42	38	38	34	32	29	27	25	21
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16
7	57	45	37	32	52	42	35	30	35	29	26	28	24	21	22	19	17	15
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	20	18	16	13
9	49	37	30	25	45	34	28	24	29	24	20	24	20	17	19	16	14	12
10	46	34	27	23	42	32	25	21	27	22	18	22	18	16	17	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9027	9027	9027	9027
5°	8866	8287	8866	8287
10°	8684	7585	8684	7585
15°	8461	6908	8433	6908
20°	8172	6292	8144	6292
25°	7798	5711	7769	5711
30°	7357	5150	7316	5150
35°	6866	4616	6835	4616
40°	6346	4087	6300	4087
45°	5884	3535	5848	3535
50°	5447	2898	5409	2898
55°	5020	2144	4992	2144
60°	4559	1582	4544	1582
65°	4074	1196	4074	1196
70°	3517	886	3539	886
75°	3022	640	3094	640
80°	3578	424	2996	424
85°	6071	177	3337	177



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.6	1.6
10°-20°	276.8	4.5
20°-30°	403.9	6.6
30°-40°	456.6	7.4
40°-50°	426.9	7.0
50°-60°	336.9	5.5
60°-70°	220.6	3.6
70°-80°	115.6	1.9
80°-90°	77.6	1.3
90°-100°	124.9	2.0
100°-110°	241.4	3.9
110°-120°	414.2	6.8
120°-130°	562.7	9.2
130°-140°	641.9	10.5
140°-150°	640.4	10.4
150°-160°	557.7	9.1
160°-170°	392.4	6.4
170°-180°	146.1	2.4
0°-30°	779.4	12.7
0°-40°	1235.9	20.1
0°-60°	1999.7	32.6
0°-90°	2413.6	39.3
90°-120°	780.4	12.7
90°-150°	2625.4	42.8
90°-180°	3722.0	60.7
0°-180°	6135.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1048	1048	1048	1048	1048	
5°	1038	1043	1038	1043	1038	98
15°	984	982	981	982	984	277
25°	874	881	871	881	874	402
35°	717	746	713	746	717	448
45°	550	581	547	581	550	425
55°	401	347	398	347	401	359
65°	260	185	260	185	260	257
75°	138	91	141	91	138	156
85°	159	22	87	22	159	124
90°	218	2	53	2	218	121
95°	296	45	35	45	296	259
105°	477	218	14	218	477	503
115°	669	445	154	445	669	664
125°	838	697	381	697	838	748
135°	973	952	612	952	973	751
145°	1069	1191	824	1191	1069	674
155°	1195	1378	1036	1378	1195	551
165°	1306	1499	1263	1499	1306	371
175°	1544	1561	1511	1561	1544	144
180°	1560	1560	1560	1560	1560	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1048.3	1048.3	1048.3	1048.3	1048.3	1048.3	1048.3	1048.3	1048.3	1048.3	1048.3
2.5°	1044.2	1046.4	1046.0	1048.0	1048.9	1046.9	1046.0	1046.4	1045.3	1046.4	1046.0
5°	1038.2	1040.5	1040.1	1040.9	1042.6	1040.9	1039.0	1040.5	1038.2	1040.5	1039.0
7.5°	1030.0	1032.2	1030.6	1032.5	1033.3	1031.3	1029.4	1031.1	1030.0	1031.1	1029.4
10°	1017.5	1018.7	1017.8	1018.7	1020.4	1017.5	1016.7	1016.4	1017.5	1016.4	1016.7
12.5°	1004.5	1003.4	1001.4	1002.3	1001.2	1002.3	1001.4	1001.2	1002.3	1001.2	1001.4
15°	984.4	983.9	982.8	984.5	982.5	983.4	981.6	981.6	981.1	981.6	981.6
17.5°	963.2	961.8	959.9	961.4	961.4	961.4	958.8	960.8	959.9	960.8	958.8
20°	936.9	937.5	936.2	937.5	936.5	936.5	935.0	935.3	933.6	935.3	935.0
22.5°	907.0	908.6	908.1	911.3	909.3	910.2	907.1	906.5	904.8	906.5	907.1
25°	873.9	876.4	881.3	882.5	881.4	881.4	879.0	873.1	870.6	873.1	879.0
27.5°	839.9	842.5	847.4	851.3	850.0	850.2	845.1	839.2	836.7	839.2	845.1
30°	799.2	804.3	814.5	819.3	816.9	817.2	811.2	801.0	794.8	801.0	811.2
32.5°	760.2	764.4	775.5	784.5	783.3	782.4	772.2	760.0	755.8	760.0	772.2
35°	716.7	719.3	733.7	746.4	746.5	743.1	730.4	715.9	713.4	715.9	730.4
37.5°	673.5	674.4	689.6	707.4	708.6	704.1	686.3	671.0	670.1	671.0	686.3
40°	630.3	628.5	642.1	663.1	668.7	660.8	637.7	624.1	625.8	624.1	637.7
42.5°	589.5	583.6	594.4	618.1	625.5	615.9	591.0	579.2	585.1	579.2	591.0
45°	550.3	540.1	546.0	567.2	580.6	565.0	541.6	536.7	546.9	536.7	541.6
47.5°	511.3	501.9	499.4	516.1	531.4	515.0	495.0	498.6	507.9	498.6	495.0
50°	473.9	463.7	456.1	466.1	474.2	463.8	451.7	459.3	470.6	459.3	451.7
52.5°	436.6	427.3	414.3	416.0	412.4	413.8	411.0	422.8	433.3	422.8	411.0
55°	400.7	392.3	375.3	366.6	346.8	364.3	372.0	388.9	398.5	388.9	372.0
57.5°	366.8	359.1	338.0	316.5	295.0	314.3	334.6	355.9	364.6	355.9	334.6
60°	328.4	324.1	299.5	267.1	250.9	265.9	297.4	321.9	327.3	321.9	297.4
62.5°	294.4	289.3	261.4	225.5	212.5	224.4	259.2	287.2	293.4	287.2	259.2
65°	259.5	251.8	223.0	188.2	184.6	187.1	221.9	250.7	259.5	250.7	221.9
67.5°	224.7	217.0	189.9	158.3	155.8	158.3	188.8	215.9	224.7	215.9	188.8
70°	193.0	181.1	157.4	130.3	131.9	130.3	157.4	182.2	194.2	182.2	157.4
72.5°	164.2	147.2	129.4	107.3	110.5	106.3	129.4	148.3	166.4	148.3	129.4
75°	137.9	119.3	100.4	85.9	91.0	85.9	101.4	120.4	141.2	120.4	101.4
77.5°	127.2	101.6	78.3	68.1	74.9	68.1	79.4	98.3	122.8	98.3	79.4
80°	129.0	100.1	64.6	51.9	57.0	51.9	62.4	82.4	108.0	82.4	62.4
82.5°	137.5	111.6	67.7	36.8	39.3	36.8	54.4	71.9	95.8	71.9	54.4
85°	159.0	134.4	83.4	31.6	22.3	29.3	51.5	67.2	87.4	67.2	51.5
87.5°	186.0	167.6	108.6	41.3	6.0	25.9	45.8	61.8	72.5	61.8	45.8
90°	217.9	202.7	141.4	58.5	2.0	16.7	32.4	47.3	52.6	47.3	32.4
92.5°	258.8	242.1	177.2	86.6	18.5	10.7	26.2	38.3	42.8	38.3	26.2
95°	295.8	287.5	218.6	117.1	45.0	7.0	20.3	31.9	34.7	31.9	20.3
97.5°	337.5	330.2	261.1	155.1	79.0	14.1	17.6	27.3	29.0	27.3	17.6
100°	374.5	370.9	303.9	202.4	121.0	37.2	12.0	24.9	27.4	24.9	12.0
102.5°	431.4	414.7	345.7	247.7	166.1	69.1	17.3	18.1	21.6	18.1	17.3
105°	477.4	458.6	399.6	294.9	217.9	112.1	43.8	15.8	13.6	15.8	43.8
107.5°	520.6	509.5	448.1	343.5	273.0	161.7	81.3	42.5	27.1	42.5	81.3
110°	575.7	562.4	495.6	391.9	330.2	214.6	124.3	77.7	60.1	77.7	124.3



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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°	628.5	618.6	539.6	442.6	389.8	271.9	177.1	121.8	105.3	121.8	177.1
115°	669.4	663.8	591.1	490.0	444.8	336.9	236.3	173.5	153.8	173.5	236.3
117.5°	712.3	711.2	628.5	538.4	510.9	395.2	290.3	225.3	204.4	225.3	290.3
120°	766.3	757.5	680.3	586.9	573.7	457.0	349.8	284.8	264.0	284.8	349.8
122.5°	803.7	798.3	724.4	633.2	633.2	519.7	407.1	342.1	320.0	342.1	407.1
125°	837.9	835.7	757.5	679.5	697.1	578.1	471.1	404.9	380.7	404.9	471.1
127.5°	868.7	872.0	800.4	730.1	762.1	637.6	533.8	461.1	435.8	461.1	533.8
130°	895.2	906.2	841.2	776.4	823.8	702.7	590.1	517.2	500.8	517.2	590.1
132.5°	946.9	940.4	883.0	823.8	889.9	762.1	649.5	573.5	554.8	573.5	649.5
135°	973.4	975.6	919.4	865.4	951.6	822.5	705.7	630.7	612.1	630.7	705.7
137.5°	1005.4	998.7	948.1	915.0	1008.9	879.7	760.7	691.4	661.6	691.4	760.7
140°	1028.5	1027.4	985.5	959.0	1070.5	936.0	817.0	746.4	719.0	746.4	817.0
142.5°	1052.7	1059.4	1023.0	1007.5	1132.3	995.4	877.6	800.4	773.9	800.4	877.6
145°	1069.2	1083.5	1060.4	1068.1	1190.6	1061.5	930.5	852.2	823.6	852.2	930.5
147.5°	1096.7	1115.5	1087.9	1111.1	1241.4	1120.0	983.3	906.2	880.8	906.2	983.3
150°	1134.3	1143.1	1126.5	1170.6	1293.9	1184.8	1037.3	957.9	932.6	957.9	1037.3
152.5°	1164.1	1174.9	1156.3	1235.6	1334.7	1244.4	1096.7	1008.6	978.9	1008.6	1096.7
155°	1194.8	1199.2	1186.0	1298.3	1377.7	1302.8	1144.2	1064.8	1036.2	1064.8	1144.2
157.5°	1223.5	1232.3	1216.9	1345.8	1415.2	1353.5	1198.1	1121.0	1095.6	1121.0	1198.1
160°	1254.3	1254.3	1263.2	1400.8	1446.0	1397.5	1255.4	1182.7	1147.5	1182.7	1255.4
162.5°	1257.7	1278.6	1325.9	1439.4	1475.8	1436.1	1317.1	1226.8	1195.9	1226.8	1317.1
165°	1306.1	1324.8	1396.4	1473.6	1498.9	1470.3	1393.2	1299.4	1263.2	1299.4	1393.2
167.5°	1356.8	1396.4	1453.7	1512.1	1520.9	1502.2	1451.5	1386.6	1353.5	1386.6	1451.5
170°	1439.4	1473.6	1502.2	1526.4	1538.6	1527.5	1487.9	1456.0	1435.0	1456.0	1487.9
172.5°	1503.6	1526.4	1537.4	1552.9	1545.2	1540.7	1520.9	1505.5	1493.7	1505.5	1520.9
175°	1544.3	1549.6	1559.5	1554.0	1560.6	1548.5	1549.6	1557.3	1511.2	1557.3	1549.6
177.5°	1558.7	1567.2	1561.7	1551.8	1552.9	1550.6	1555.1	1559.5	1552.0	1559.5	1555.1
180°	1559.5	1559.5	1559.5	1559.5	1559.5	1559.5	1559.5	1559.5	1559.5	1559.5	1559.5



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1048.3	1048.3	1048.3	1048.3	1048.3	1048.3
2.5°	1046.9	1048.9	1048.0	1046.0	1046.4	1044.2
5°	1040.9	1042.6	1040.9	1040.1	1040.5	1038.2
7.5°	1031.3	1033.3	1032.5	1030.6	1032.2	1030.0
10°	1017.5	1020.4	1018.7	1017.8	1018.7	1017.5
12.5°	1002.3	1001.2	1002.3	1001.4	1003.4	1004.5
15°	983.4	982.5	984.5	982.8	983.9	984.4
17.5°	961.4	961.4	961.4	959.9	961.8	963.2
20°	936.5	936.5	937.5	936.2	937.5	936.9
22.5°	910.2	909.3	911.3	908.1	908.6	907.0
25°	881.4	881.4	882.5	881.3	876.4	873.9
27.5°	850.2	850.0	851.3	847.4	842.5	839.9
30°	817.2	816.9	819.3	814.5	804.3	799.2
32.5°	782.4	783.3	784.5	775.5	764.4	760.2
35°	743.1	746.5	746.4	733.7	719.3	716.7
37.5°	704.1	708.6	707.4	689.6	674.4	673.5
40°	660.8	668.7	663.1	642.1	628.5	630.3
42.5°	615.9	625.5	618.1	594.4	583.6	589.5
45°	565.0	580.6	567.2	546.0	540.1	550.3
47.5°	515.0	531.4	516.1	499.4	501.9	511.3
50°	463.8	474.2	466.1	456.1	463.7	473.9
52.5°	413.8	412.4	416.0	414.3	427.3	436.6
55°	364.3	346.8	366.6	375.3	392.3	400.7
57.5°	314.3	295.0	316.5	338.0	359.1	366.8
60°	265.9	250.9	267.1	299.5	324.1	328.4
62.5°	224.4	212.5	225.5	261.4	289.3	294.4
65°	187.1	184.6	188.2	223.0	251.8	259.5
67.5°	158.3	155.8	158.3	189.9	217.0	224.7
70°	130.3	131.9	130.3	157.4	181.1	193.0
72.5°	106.3	110.5	107.3	129.4	147.2	164.2
75°	85.9	91.0	85.9	100.4	119.3	137.9
77.5°	68.1	74.9	68.1	78.3	101.6	127.2
80°	51.9	57.0	51.9	64.6	100.1	129.0
82.5°	36.8	39.3	36.8	67.7	111.6	137.5
85°	29.3	22.3	31.6	83.4	134.4	159.0
87.5°	25.9	6.0	41.3	108.6	167.6	186.0
90°	16.7	2.0	58.5	141.4	202.7	217.9
92.5°	10.7	18.5	86.6	177.2	242.1	258.8
95°	7.0	45.0	117.1	218.6	287.5	295.8
97.5°	14.1	79.0	155.1	261.1	330.2	337.5
100°	37.2	121.0	202.4	303.9	370.9	374.5
102.5°	69.1	166.1	247.7	345.7	414.7	431.4
105°	112.1	217.9	294.9	399.6	458.6	477.4
107.5°	161.7	273.0	343.5	448.1	509.5	520.6
110°	214.6	330.2	391.9	495.6	562.4	575.7



TEST NUMBER: P392611

CATALOG NUMBER: MWL-3-44-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	271.9	389.8	442.6	539.6	618.6	628.5
115°	336.9	444.8	490.0	591.1	663.8	669.4
117.5°	395.2	510.9	538.4	628.5	711.2	712.3
120°	457.0	573.7	586.9	680.3	757.5	766.3
122.5°	519.7	633.2	633.2	724.4	798.3	803.7
125°	578.1	697.1	679.5	757.5	835.7	837.9
127.5°	637.6	762.1	730.1	800.4	872.0	868.7
130°	702.7	823.8	776.4	841.2	906.2	895.2
132.5°	762.1	889.9	823.8	883.0	940.4	946.9
135°	822.5	951.6	865.4	919.4	975.6	973.4
137.5°	879.7	1008.9	915.0	948.1	998.7	1005.4
140°	936.0	1070.5	959.0	985.5	1027.4	1028.5
142.5°	995.4	1132.3	1007.5	1023.0	1059.4	1052.7
145°	1061.5	1190.6	1068.1	1060.4	1083.5	1069.2
147.5°	1120.0	1241.4	1111.1	1087.9	1115.5	1096.7
150°	1184.8	1293.9	1170.6	1126.5	1143.1	1134.3
152.5°	1244.4	1334.7	1235.6	1156.3	1174.9	1164.1
155°	1302.8	1377.7	1298.3	1186.0	1199.2	1194.8
157.5°	1353.5	1415.2	1345.8	1216.9	1232.3	1223.5
160°	1397.5	1446.0	1400.8	1263.2	1254.3	1254.3
162.5°	1436.1	1475.8	1439.4	1325.9	1278.6	1257.7
165°	1470.3	1498.9	1473.6	1396.4	1324.8	1306.1
167.5°	1502.2	1520.9	1512.1	1453.7	1396.4	1356.8
170°	1527.5	1538.6	1526.4	1502.2	1473.6	1439.4
172.5°	1540.7	1545.2	1552.9	1537.4	1526.4	1503.6
175°	1548.5	1560.6	1554.0	1559.5	1549.6	1544.3
177.5°	1550.6	1552.9	1551.8	1561.7	1567.2	1558.7
180°	1559.5	1559.5	1559.5	1559.5	1559.5	1559.5

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