

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: P392607

Luminaire Tested: **MWL-3-44-25-UNV-L930-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392607  
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-L930-EDD  
Description: MWL 3FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

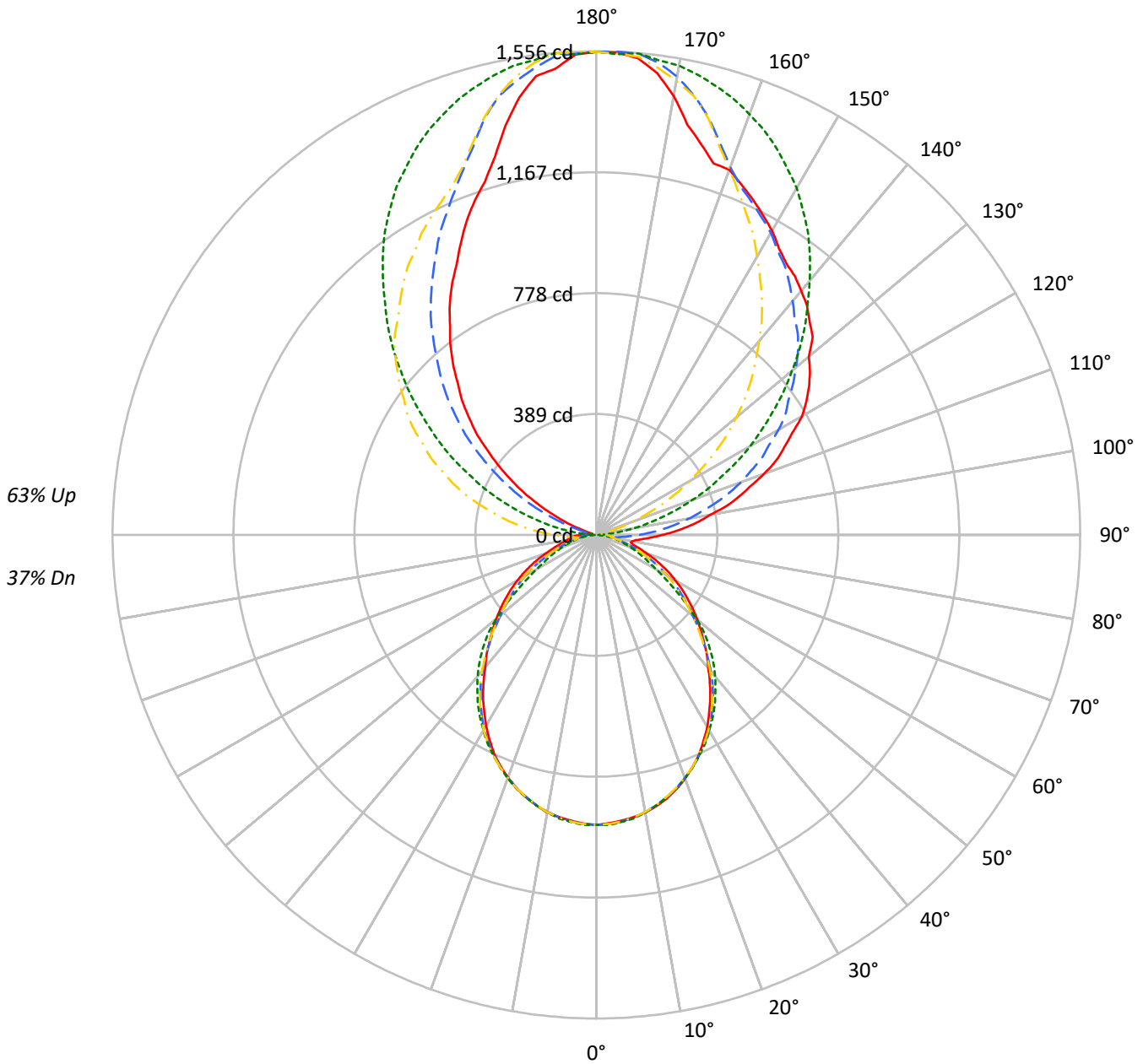
Lumens per Lamp: N/A  
Luminaire Lumens: 5857.9 lumens  
Efficiency: N/A  
Efficacy: 73.5 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')  
CIE Type: Semi-Indirect

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



TEST NUMBER: P392607  
CATALOG NUMBER: MWL-3-44-25-UNV-L930-EDD

### 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	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°	8036	8036	8036	8036
5°	7883	7372	7883	7372
10°	7739	6741	7739	6741
15°	7546	6146	7516	6146
20°	7274	5600	7245	5600
25°	6964	5072	6934	5072
30°	6569	4577	6528	4577
35°	6122	4108	6090	4108
40°	5642	3634	5598	3634
45°	5231	3142	5196	3142
50°	4865	2574	4826	2574
55°	4484	1917	4456	1917
60°	4075	1406	4058	1406
65°	3620	1066	3620	1066
70°	3089	787	3109	787
75°	2697	572	2770	572
80°	3259	372	2682	372
85°	5758	163	3036	163



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.8	1.5
10°-20°	246.3	4.2
20°-30°	359.5	6.1
30°-40°	406.3	6.9
40°-50°	380.3	6.5
50°-60°	300.3	5.1
60°-70°	196.5	3.4
70°-80°	103.1	1.8
80°-90°	72.2	1.2
90°-100°	122.4	2.1
100°-110°	240.3	4.1
110°-120°	412.6	7.0
120°-130°	560.5	9.6
130°-140°	639.5	10.9
140°-150°	638.1	10.9
150°-160°	555.6	9.5
160°-170°	390.9	6.7
170°-180°	145.6	2.5
0°-30°	693.6	11.8
0°-40°	1099.9	18.8
0°-60°	1780.5	30.4
0°-90°	2152.3	36.7
90°-120°	775.3	13.2
90°-150°	2613.5	44.6
90°-180°	3706.0	63.3
0°-180°	5857.9	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	933	933	933	933	933	
5°	923	927	923	927	923	88
15°	878	874	874	874	878	247
25°	780	783	777	783	780	358
35°	639	664	636	664	639	399
45°	489	516	486	516	489	379
55°	358	310	356	310	358	321
65°	231	164	231	164	231	229
75°	123	81	126	81	123	139
85°	151	20	80	20	151	116
90°	212	1	47	1	212	117
95°	291	45	31	45	291	255
105°	475	217	13	217	475	500
115°	667	443	153	443	667	662
125°	835	695	379	695	835	746
135°	970	948	610	948	970	749
145°	1066	1186	821	1186	1066	672
155°	1191	1372	1033	1372	1191	549
165°	1302	1494	1259	1494	1302	369
175°	1539	1555	1506	1555	1539	143
180°	1554	1554	1554	1554	1554	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	933.2	933.2	933.2	933.2	933.2	933.2	933.2	933.2	933.2	933.2	933.2
2.5°	928.1	932.0	930.9	932.8	933.6	931.7	930.9	932.0	929.2	932.0	930.9
5°	923.0	926.9	926.6	926.6	927.4	926.6	925.5	926.9	923.0	926.9	925.5
7.5°	915.7	918.7	917.0	919.0	919.9	917.9	916.0	917.7	915.7	917.7	916.0
10°	906.7	906.9	906.0	906.9	906.9	905.8	905.0	904.7	906.7	904.7	905.0
12.5°	893.6	891.7	890.6	892.3	891.2	892.3	890.6	889.5	891.4	889.5	890.6
15°	877.9	875.7	873.7	875.4	874.2	874.2	872.6	873.5	874.5	873.5	872.6
17.5°	857.5	855.3	854.3	855.7	855.7	855.7	853.2	854.3	854.3	854.3	853.2
20°	833.9	834.4	832.2	834.5	833.5	833.5	831.2	832.2	830.6	832.2	831.2
22.5°	807.4	809.1	808.7	810.1	809.8	809.0	807.5	806.9	805.2	806.9	807.5
25°	780.4	779.5	782.7	785.6	782.8	784.4	780.5	776.2	777.1	776.2	780.5
27.5°	746.6	751.7	754.8	758.7	757.4	757.7	752.6	748.3	743.3	748.3	752.6
30°	713.6	716.2	724.7	729.4	726.1	727.2	721.3	712.9	709.2	712.9	721.3
32.5°	675.6	680.6	690.0	698.1	695.9	695.9	686.7	676.3	671.2	676.3	686.7
35°	639.0	640.7	652.5	664.3	664.4	661.1	649.2	637.4	635.7	637.4	649.2
37.5°	599.3	600.9	614.5	628.9	628.3	625.6	611.2	597.7	596.0	597.7	611.2
40°	560.4	561.2	572.2	590.6	594.5	588.4	567.8	556.8	556.0	556.8	567.8
42.5°	526.6	520.7	528.0	550.0	556.5	547.8	524.8	516.3	522.2	516.3	524.8
45°	489.2	482.4	486.7	506.9	516.0	504.7	482.2	479.1	485.9	479.1	482.2
47.5°	455.4	446.9	446.1	460.1	473.7	459.1	441.7	443.6	452.0	443.6	441.7
50°	423.3	413.1	405.5	415.4	421.1	413.2	401.1	408.7	419.9	408.7	401.1
52.5°	391.1	381.0	368.9	371.4	364.4	369.3	365.6	376.6	387.9	376.6	365.6
55°	357.9	349.5	335.1	326.4	310.1	324.2	331.8	346.1	355.7	346.1	331.8
57.5°	326.7	319.9	302.1	283.3	263.6	281.1	298.8	316.6	324.5	316.6	298.8
60°	293.5	290.0	266.4	239.1	223.0	238.0	264.2	287.8	292.3	287.8	264.2
62.5°	263.9	257.9	232.5	201.0	189.8	200.0	230.4	255.7	262.7	255.7	230.4
65°	230.6	226.4	197.7	169.8	164.5	168.7	196.6	225.3	230.6	225.3	196.6
67.5°	201.0	192.6	169.0	139.1	139.1	139.1	167.8	191.5	201.0	191.5	167.8
70°	169.5	161.0	139.1	116.3	117.1	116.3	139.1	162.2	170.6	162.2	139.1
72.5°	145.0	132.3	113.8	95.2	97.5	94.0	113.8	133.5	147.2	133.5	113.8
75°	123.1	107.9	89.8	77.1	81.4	77.1	91.0	108.9	126.4	108.9	91.0
77.5°	113.2	91.1	70.4	60.2	65.3	60.2	71.5	87.8	108.8	87.8	71.5
80°	117.5	91.3	58.5	45.9	50.1	45.9	56.3	73.7	96.7	73.7	56.3
82.5°	127.8	104.4	61.5	33.2	34.9	33.2	48.3	64.9	86.1	64.9	48.3
85°	150.8	128.0	78.1	28.1	20.5	25.9	46.2	61.1	79.5	61.1	46.2
87.5°	179.4	161.9	104.0	39.4	5.9	24.1	41.4	56.5	66.3	56.5	41.4
90°	212.0	197.8	138.4	56.6	1.1	14.9	29.8	43.0	47.4	43.0	29.8
92.5°	252.8	237.9	174.0	85.5	18.4	9.8	23.6	34.8	37.6	34.8	23.6
95°	291.4	283.1	216.1	115.9	44.8	6.1	18.5	28.4	31.2	28.4	18.5
97.5°	333.7	326.6	258.5	154.6	78.8	14.0	15.8	24.7	26.3	24.7	15.8
100°	370.7	367.9	302.8	201.7	120.5	37.1	11.9	23.2	24.8	23.2	11.9
102.5°	428.2	412.4	344.5	246.8	165.5	68.9	17.3	17.3	19.8	17.3	17.3
105°	474.9	457.1	398.3	293.9	217.1	111.7	43.7	15.8	12.8	15.8	43.7
107.5°	518.7	507.8	446.6	342.3	272.1	161.1	81.0	42.4	26.9	42.4	81.0
110°	573.6	560.5	493.8	390.5	329.1	213.8	123.8	77.4	59.9	77.4	123.8



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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°	626.3	616.4	537.6	441.0	388.4	270.9	176.5	121.3	104.9	121.3	176.5
115°	667.0	661.5	588.2	488.3	443.2	335.6	234.7	172.9	153.2	172.9	234.7
117.5°	709.9	708.7	625.5	536.6	509.1	393.8	288.5	224.5	203.7	224.5	288.5
120°	763.6	754.8	677.1	584.9	571.7	455.4	347.8	283.8	263.0	283.8	347.8
122.5°	800.9	795.4	721.0	631.0	631.0	517.9	404.9	340.9	318.9	340.9	404.9
125°	834.9	832.8	754.0	677.1	694.7	576.1	468.5	403.4	379.4	403.4	468.5
127.5°	865.7	869.0	796.8	727.6	759.4	635.4	531.1	459.5	434.3	459.5	531.1
130°	892.0	903.0	837.4	773.7	821.0	700.2	587.1	515.4	499.1	515.4	587.1
132.5°	943.6	937.1	880.0	821.0	886.8	759.4	647.2	571.4	552.8	571.4	647.2
135°	970.0	972.2	916.2	861.6	948.2	818.8	703.3	628.5	609.9	628.5	703.3
137.5°	1001.8	995.2	943.9	911.0	1005.4	875.8	757.2	689.0	659.3	689.0	757.2
140°	1024.9	1023.8	982.0	955.7	1066.8	932.7	814.1	743.8	716.4	743.8	814.1
142.5°	1049.0	1055.6	1019.4	1003.2	1128.4	991.1	874.4	797.6	771.2	797.6	874.4
145°	1065.5	1079.8	1056.7	1064.3	1186.5	1057.7	927.2	849.2	820.7	849.2	927.2
147.5°	1093.0	1111.6	1084.2	1107.2	1237.0	1116.0	979.8	903.0	877.8	903.0	979.8
150°	1130.3	1139.1	1122.5	1166.6	1288.6	1180.8	1033.7	954.6	929.4	954.6	1033.7
152.5°	1160.0	1170.9	1151.4	1230.4	1329.2	1239.2	1092.1	1005.1	975.4	1005.1	1092.1
155°	1190.6	1195.0	1181.8	1292.9	1372.1	1297.3	1140.2	1061.1	1032.6	1061.1	1140.2
157.5°	1219.2	1227.9	1212.6	1340.2	1409.3	1347.9	1194.0	1117.1	1091.8	1117.1	1194.0
160°	1250.0	1250.0	1258.8	1395.9	1440.1	1392.6	1251.0	1178.5	1143.5	1178.5	1251.0
162.5°	1253.2	1273.3	1321.3	1434.3	1470.6	1431.1	1312.5	1221.6	1191.8	1221.6	1312.5
165°	1301.5	1319.3	1391.5	1468.4	1493.7	1465.2	1388.3	1294.1	1258.8	1294.1	1388.3
167.5°	1352.0	1390.7	1448.6	1506.8	1515.6	1496.9	1446.5	1380.9	1348.7	1380.9	1446.5
170°	1433.5	1467.5	1496.9	1521.1	1533.1	1522.2	1482.7	1450.0	1429.1	1450.0	1482.7
172.5°	1498.3	1520.2	1532.1	1547.5	1539.7	1535.3	1515.6	1499.3	1488.5	1499.3	1515.6
175°	1538.9	1543.3	1554.0	1548.5	1555.1	1543.1	1544.1	1551.0	1505.9	1551.0	1544.1
177.5°	1553.2	1560.9	1556.2	1546.3	1547.5	1545.3	1549.6	1553.2	1546.6	1553.2	1549.6
180°	1554.0	1554.0	1554.0	1554.0	1554.0	1554.0	1554.0	1554.0	1554.0	1554.0	1554.0



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	933.2	933.2	933.2	933.2	933.2	933.2
2.5°	931.7	933.6	932.8	930.9	932.0	928.1
5°	926.6	927.4	926.6	926.6	926.9	923.0
7.5°	917.9	919.9	919.0	917.0	918.7	915.7
10°	905.8	906.9	906.9	906.0	906.9	906.7
12.5°	892.3	891.2	892.3	890.6	891.7	893.6
15°	874.2	874.2	875.4	873.7	875.7	877.9
17.5°	855.7	855.7	855.7	854.3	855.3	857.5
20°	833.5	833.5	834.5	832.2	834.4	833.9
22.5°	809.0	809.8	810.1	808.7	809.1	807.4
25°	784.4	782.8	785.6	782.7	779.5	780.4
27.5°	757.7	757.4	758.7	754.8	751.7	746.6
30°	727.2	726.1	729.4	724.7	716.2	713.6
32.5°	695.9	695.9	698.1	690.0	680.6	675.6
35°	661.1	664.4	664.3	652.5	640.7	639.0
37.5°	625.6	628.3	628.9	614.5	600.9	599.3
40°	588.4	594.5	590.6	572.2	561.2	560.4
42.5°	547.8	556.5	550.0	528.0	520.7	526.6
45°	504.7	516.0	506.9	486.7	482.4	489.2
47.5°	459.1	473.7	460.1	446.1	446.9	455.4
50°	413.2	421.1	415.4	405.5	413.1	423.3
52.5°	369.3	364.4	371.4	368.9	381.0	391.1
55°	324.2	310.1	326.4	335.1	349.5	357.9
57.5°	281.1	263.6	283.3	302.1	319.9	326.7
60°	238.0	223.0	239.1	266.4	290.0	293.5
62.5°	200.0	189.8	201.0	232.5	257.9	263.9
65°	168.7	164.5	169.8	197.7	226.4	230.6
67.5°	139.1	139.1	139.1	169.0	192.6	201.0
70°	116.3	117.1	116.3	139.1	161.0	169.5
72.5°	94.0	97.5	95.2	113.8	132.3	145.0
75°	77.1	81.4	77.1	89.8	107.9	123.1
77.5°	60.2	65.3	60.2	70.4	91.1	113.2
80°	45.9	50.1	45.9	58.5	91.3	117.5
82.5°	33.2	34.9	33.2	61.5	104.4	127.8
85°	25.9	20.5	28.1	78.1	128.0	150.8
87.5°	24.1	5.9	39.4	104.0	161.9	179.4
90°	14.9	1.1	56.6	138.4	197.8	212.0
92.5°	9.8	18.4	85.5	174.0	237.9	252.8
95°	6.1	44.8	115.9	216.1	283.1	291.4
97.5°	14.0	78.8	154.6	258.5	326.6	333.7
100°	37.1	120.5	201.7	302.8	367.9	370.7
102.5°	68.9	165.5	246.8	344.5	412.4	428.2
105°	111.7	217.1	293.9	398.3	457.1	474.9
107.5°	161.1	272.1	342.3	446.6	507.8	518.7
110°	213.8	329.1	390.5	493.8	560.5	573.6





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	270.9	388.4	441.0	537.6	616.4	626.3
115°	335.6	443.2	488.3	588.2	661.5	667.0
117.5°	393.8	509.1	536.6	625.5	708.7	709.9
120°	455.4	571.7	584.9	677.1	754.8	763.6
122.5°	517.9	631.0	631.0	721.0	795.4	800.9
125°	576.1	694.7	677.1	754.0	832.8	834.9
127.5°	635.4	759.4	727.6	796.8	869.0	865.7
130°	700.2	821.0	773.7	837.4	903.0	892.0
132.5°	759.4	886.8	821.0	880.0	937.1	943.6
135°	818.8	948.2	861.6	916.2	972.2	970.0
137.5°	875.8	1005.4	911.0	943.9	995.2	1001.8
140°	932.7	1066.8	955.7	982.0	1023.8	1024.9
142.5°	991.1	1128.4	1003.2	1019.4	1055.6	1049.0
145°	1057.7	1186.5	1064.3	1056.7	1079.8	1065.5
147.5°	1116.0	1237.0	1107.2	1084.2	1111.6	1093.0
150°	1180.8	1288.6	1166.6	1122.5	1139.1	1130.3
152.5°	1239.2	1329.2	1230.4	1151.4	1170.9	1160.0
155°	1297.3	1372.1	1292.9	1181.8	1195.0	1190.6
157.5°	1347.9	1409.3	1340.2	1212.6	1227.9	1219.2
160°	1392.6	1440.1	1395.9	1258.8	1250.0	1250.0
162.5°	1431.1	1470.6	1434.3	1321.3	1273.3	1253.2
165°	1465.2	1493.7	1468.4	1391.5	1319.3	1301.5
167.5°	1496.9	1515.6	1506.8	1448.6	1390.7	1352.0
170°	1522.2	1533.1	1521.1	1496.9	1467.5	1433.5
172.5°	1535.3	1539.7	1547.5	1532.1	1520.2	1498.3
175°	1543.1	1555.1	1548.5	1554.0	1543.3	1538.9
177.5°	1545.3	1547.5	1546.3	1556.2	1560.9	1553.2
180°	1554.0	1554.0	1554.0	1554.0	1554.0	1554.0

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