

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: P392596

Luminaire Tested: **MWL-3-37-28-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392596
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-3-37-28-UNV-L935-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

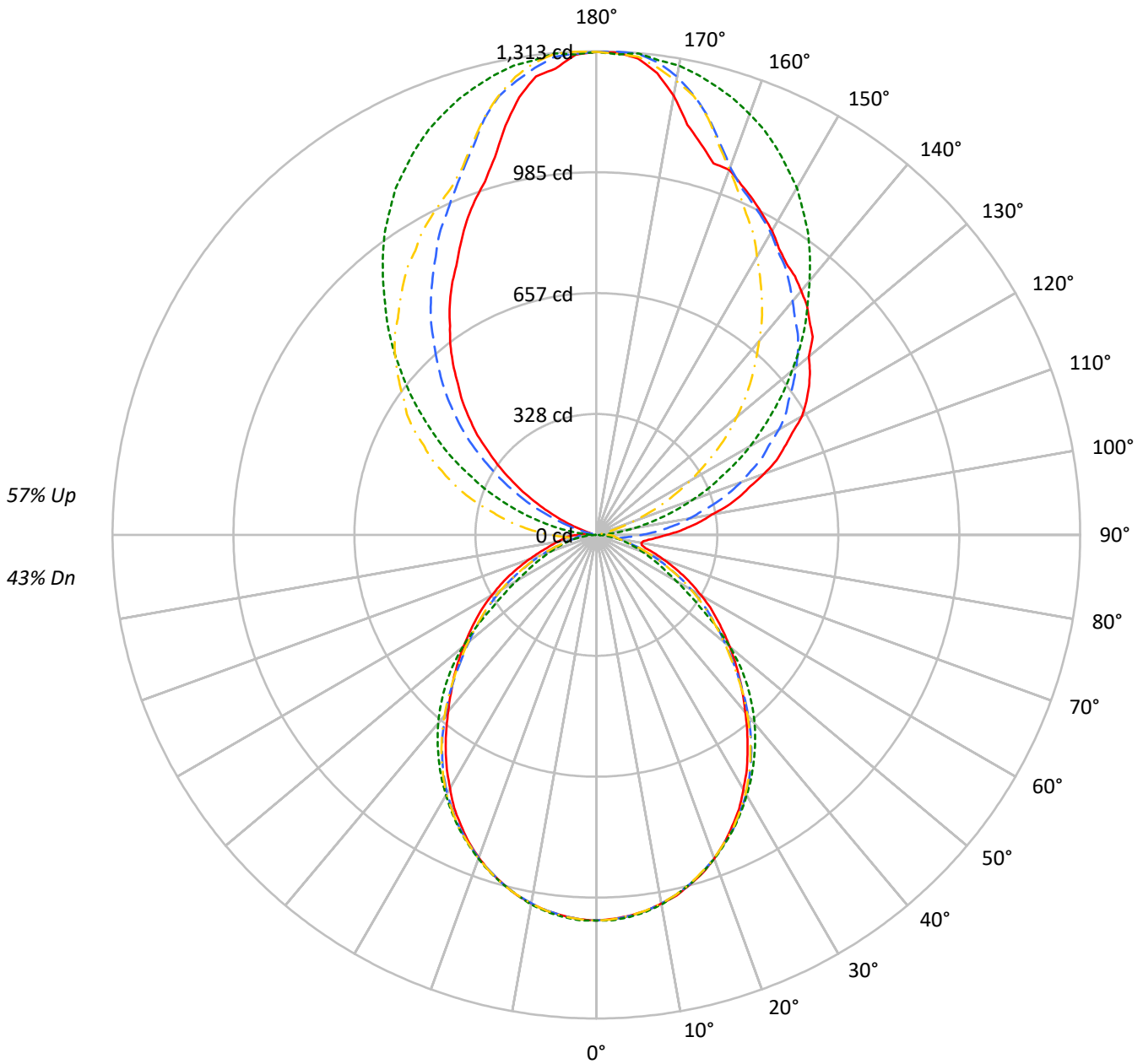
Lumens per Lamp: N/A
Luminaire Lumens: 5538.2 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 64.741
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: P392596
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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	50	30	10	0	
RCR																						
0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43				
1	96	92	88	85	88	84	81	78	70	68	66	57	55	54	44	43	42	37				
2	88	81	75	70	80	74	69	65	62	58	55	50	47	45	39	38	36	31				
3	80	71	64	58	73	65	59	54	55	50	46	45	41	39	35	33	31	27				
4	74	63	56	50	67	58	51	46	49	44	40	40	36	33	32	29	27	23				
5	68	56	49	43	62	52	45	40	44	38	34	36	32	29	29	26	24	20				
6	62	51	43	37	57	47	40	35	39	34	30	33	29	26	26	23	21	18				
7	58	46	38	33	53	42	35	31	36	30	27	30	26	23	24	21	19	16				
8	54	42	34	29	49	39	32	27	33	27	24	27	23	20	22	19	17	15				
9	50	38	31	26	46	35	29	24	30	25	21	25	21	18	20	17	15	13				
10	47	35	28	23	43	32	26	22	28	23	19	23	19	17	19	16	14	12				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9016	9016	9016	9016
5°	8861	8276	8861	8276
10°	8676	7575	8676	7575
15°	8447	6902	8424	6902
20°	8158	6286	8134	6286
25°	7785	5707	7761	5707
30°	7344	5145	7310	5145
35°	6854	4611	6829	4611
40°	6333	4082	6295	4082
45°	5873	3530	5843	3530
50°	5436	2895	5403	2895
55°	5010	2141	4986	2141
60°	4549	1578	4537	1578
65°	4066	1194	4066	1194
70°	3512	884	3528	884
75°	3013	639	3077	639
80°	3448	423	2957	423
85°	5521	176	3227	176



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.5	1.8
10°-20°	276.5	5.0
20°-30°	403.5	7.3
30°-40°	456.0	8.2
40°-50°	426.3	7.7
50°-60°	336.4	6.1
60°-70°	220.1	4.0
70°-80°	115.1	2.1
80°-90°	72.9	1.3
90°-100°	107.9	1.9
100°-110°	203.5	3.7
110°-120°	348.4	6.3
120°-130°	473.2	8.5
130°-140°	539.8	9.7
140°-150°	538.5	9.7
150°-160°	469.0	8.5
160°-170°	329.9	6.0
170°-180°	122.9	2.2
0°-30°	778.5	14.1
0°-40°	1234.4	22.3
0°-60°	1997.1	36.1
0°-90°	2405.2	43.4
90°-120°	659.7	11.9
90°-150°	2211.2	39.9
90°-180°	3133.0	56.6
0°-180°	5538.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1047	1047	1047	1047	1047	
5°	1038	1041	1038	1041	1038	98
15°	983	982	980	982	983	277
25°	872	881	870	881	872	401
35°	715	746	713	746	715	447
45°	549	580	546	580	549	424
55°	400	346	398	346	400	358
65°	259	184	259	184	259	257
75°	138	91	140	91	138	155
85°	145	22	84	22	145	114
90°	190	2	51	2	190	105
95°	254	38	34	38	254	221
105°	402	183	12	183	402	424
115°	563	374	130	374	563	559
125°	705	586	320	586	705	629
135°	818	800	515	800	818	632
145°	899	1001	693	1001	899	567
155°	1005	1158	871	1158	1005	463
165°	1098	1260	1062	1260	1098	312
175°	1298	1312	1271	1312	1298	121
180°	1311	1311	1311	1311	1311	



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1047.0	1047.0	1047.0	1047.0	1047.0	1047.0	1047.0	1047.0	1047.0	1047.0	1047.0
2.5°	1043.5	1045.3	1044.5	1046.4	1047.2	1045.4	1044.5	1045.3	1044.4	1045.3	1044.5
5°	1037.6	1039.4	1038.7	1039.4	1041.2	1039.4	1037.7	1039.4	1037.6	1039.4	1037.7
7.5°	1029.2	1030.9	1029.3	1031.0	1031.9	1030.0	1028.4	1030.0	1029.2	1030.0	1028.4
10°	1016.5	1017.4	1016.5	1017.4	1019.1	1016.5	1015.6	1015.5	1016.5	1015.5	1015.6
12.5°	1003.0	1002.1	1000.4	1001.2	1000.3	1001.2	1000.4	1000.3	1001.2	1000.3	1000.4
15°	982.8	982.6	981.7	983.4	981.6	982.5	980.8	980.8	980.1	980.8	980.8
17.5°	961.5	960.5	958.9	960.4	960.4	960.4	957.9	959.7	958.9	959.7	957.9
20°	935.3	936.0	935.1	936.7	935.7	935.7	934.2	934.3	932.5	934.3	934.2
22.5°	905.5	907.2	907.1	910.4	908.6	909.5	906.1	905.4	903.7	905.4	906.1
25°	872.4	875.0	880.0	881.5	880.7	880.7	878.2	872.2	869.7	872.2	878.2
27.5°	838.5	841.1	846.1	850.3	849.3	849.4	844.3	838.3	835.8	838.3	844.3
30°	797.8	802.8	813.0	818.0	816.2	816.3	810.3	800.2	794.1	800.2	810.3
32.5°	758.7	763.0	774.0	783.3	782.4	781.5	771.3	759.4	755.1	759.4	771.3
35°	715.4	718.0	732.4	745.1	745.8	742.4	729.7	715.3	712.8	715.3	729.7
37.5°	672.2	673.1	688.3	706.1	707.8	703.4	685.6	670.3	669.4	670.3	685.6
40°	629.0	627.2	640.8	662.0	667.9	660.1	637.2	623.6	625.3	623.6	637.2
42.5°	588.2	582.3	593.3	617.1	624.7	615.2	590.5	578.7	584.6	578.7	590.5
45°	549.2	539.1	545.0	566.1	579.7	564.3	541.2	536.2	546.4	536.2	541.2
47.5°	510.2	500.9	498.3	515.2	530.5	514.3	494.6	498.1	507.4	498.1	494.6
50°	472.9	462.7	455.1	465.2	473.6	463.3	451.4	459.0	470.1	459.0	451.4
52.5°	435.6	426.3	413.4	415.1	411.7	413.2	410.7	422.5	432.7	422.5	410.7
55°	399.9	391.4	374.4	365.9	346.3	364.0	371.7	388.6	398.0	388.6	371.7
57.5°	366.0	358.3	337.1	315.8	294.5	313.9	334.3	355.5	364.1	355.5	334.3
60°	327.7	323.4	298.8	266.5	250.4	265.6	297.0	321.6	326.8	321.6	297.0
62.5°	293.8	288.7	260.7	225.0	212.2	224.1	258.9	286.8	292.9	286.8	258.9
65°	259.0	251.3	222.5	187.7	184.2	186.7	221.5	250.3	259.0	250.3	221.5
67.5°	224.2	216.5	189.4	157.9	155.4	157.9	188.5	215.6	224.2	215.6	188.5
70°	192.7	180.8	157.0	130.0	131.6	130.0	157.0	181.7	193.6	181.7	157.0
72.5°	163.9	146.9	129.1	107.0	110.4	106.1	129.1	147.8	165.7	147.8	129.1
75°	137.5	118.9	100.2	85.8	90.9	85.8	101.1	119.9	140.4	119.9	101.1
77.5°	125.5	100.6	78.1	67.9	74.7	67.9	79.0	97.8	121.8	97.8	79.0
80°	124.3	96.5	63.9	51.9	56.9	51.9	62.0	81.7	106.6	81.7	62.0
82.5°	128.7	104.2	64.9	36.6	39.1	36.6	53.8	70.9	93.5	70.9	53.8
85°	144.6	121.8	76.7	30.9	22.2	29.0	49.9	65.3	84.5	65.3	49.9
87.5°	165.3	148.4	96.8	37.9	6.0	25.0	44.0	59.5	69.9	59.5	44.0
90°	190.3	176.8	123.4	51.5	1.8	16.3	31.8	46.3	51.4	46.3	31.8
92.5°	223.5	209.0	152.6	74.2	15.7	10.4	25.7	37.6	41.9	37.6	25.7
95°	253.7	246.4	186.4	98.9	37.9	6.3	19.8	31.6	34.2	31.6	19.8
97.5°	287.6	281.3	221.2	130.6	66.6	12.0	16.7	26.7	28.3	26.7	16.7
100°	317.8	314.3	256.1	170.3	101.7	31.4	10.7	23.5	26.1	23.5	10.7
102.5°	364.7	350.2	290.7	208.3	139.8	58.2	14.8	16.7	20.1	16.7	14.8
105°	402.4	386.0	336.1	248.2	183.3	94.4	37.0	13.6	12.3	13.6	37.0
107.5°	437.8	428.6	376.9	288.9	229.6	136.0	68.4	36.0	23.0	36.0	68.4
110°	484.2	473.0	416.7	329.6	277.8	180.5	104.6	65.6	50.8	65.6	104.6



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CATALOG NUMBER: MWL-3-37-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	528.7	520.3	453.7	372.3	327.8	228.7	149.0	102.6	88.7	102.6	149.0
115°	563.0	558.3	497.1	412.1	374.1	283.4	199.0	146.2	129.5	146.2	199.0
117.5°	599.1	598.2	528.7	452.8	429.6	332.4	244.4	189.8	172.1	189.8	244.4
120°	644.4	637.0	572.2	493.6	482.4	384.2	294.3	239.6	222.1	239.6	294.3
122.5°	675.9	671.2	609.3	532.4	532.4	437.0	342.6	287.9	269.3	287.9	342.6
125°	704.6	702.8	637.0	571.3	586.2	486.2	396.2	340.7	320.3	340.7	396.2
127.5°	730.5	733.3	673.1	614.0	640.8	536.1	449.0	387.9	366.6	387.9	449.0
130°	752.8	762.0	707.4	652.9	692.6	590.7	496.3	435.2	421.3	435.2	496.3
132.5°	796.3	790.8	742.6	692.6	748.2	640.8	546.2	482.4	466.7	482.4	546.2
135°	818.5	820.4	773.1	727.8	800.1	691.7	593.5	530.5	514.8	530.5	593.5
137.5°	845.4	839.9	797.2	769.4	848.2	739.8	639.8	581.4	556.4	581.4	639.8
140°	864.9	863.9	828.7	806.6	900.1	787.1	687.0	627.8	604.6	627.8	687.0
142.5°	885.2	890.8	860.2	847.2	952.0	837.0	738.0	673.1	650.9	673.1	738.0
145°	899.1	911.1	891.6	898.2	1001.1	892.6	782.5	716.6	692.6	716.6	782.5
147.5°	922.3	938.0	914.8	934.3	1043.7	941.7	826.9	762.0	740.7	762.0	826.9
150°	953.8	961.1	947.2	984.3	1088.0	996.3	872.2	805.6	784.3	805.6	872.2
152.5°	978.8	988.0	972.2	1039.0	1122.3	1046.4	922.3	848.1	823.1	848.1	922.3
155°	1004.8	1008.4	997.3	1091.7	1158.4	1095.5	962.0	895.4	871.4	895.4	962.0
157.5°	1028.7	1036.2	1023.2	1131.6	1189.9	1138.1	1007.4	942.6	921.3	942.6	1007.4
160°	1054.6	1054.6	1062.1	1177.9	1215.8	1175.1	1055.6	994.5	964.9	994.5	1055.6
162.5°	1057.5	1075.0	1114.9	1210.3	1240.9	1207.5	1107.5	1031.5	1005.5	1031.5	1107.5
165°	1098.2	1113.9	1174.1	1239.0	1260.3	1236.3	1171.4	1092.7	1062.1	1092.7	1171.4
167.5°	1140.8	1174.1	1222.3	1271.5	1278.8	1263.0	1220.5	1165.9	1138.1	1165.9	1220.5
170°	1210.3	1239.0	1263.0	1283.5	1293.7	1284.3	1251.0	1224.2	1206.6	1224.2	1251.0
172.5°	1264.1	1283.5	1292.7	1305.7	1299.2	1295.5	1278.8	1265.9	1255.8	1265.9	1278.8
175°	1298.3	1302.9	1311.2	1306.6	1312.1	1301.9	1302.9	1309.4	1270.6	1309.4	1302.9
177.5°	1310.4	1317.7	1313.1	1304.8	1305.7	1303.8	1307.5	1311.2	1304.9	1311.2	1307.5
180°	1311.2	1311.2	1311.2	1311.2	1311.2	1311.2	1311.2	1311.2	1311.2	1311.2	1311.2



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1047.0	1047.0	1047.0	1047.0	1047.0	1047.0
2.5°	1045.4	1047.2	1046.4	1044.5	1045.3	1043.5
5°	1039.4	1041.2	1039.4	1038.7	1039.4	1037.6
7.5°	1030.0	1031.9	1031.0	1029.3	1030.9	1029.2
10°	1016.5	1019.1	1017.4	1016.5	1017.4	1016.5
12.5°	1001.2	1000.3	1001.2	1000.4	1002.1	1003.0
15°	982.5	981.6	983.4	981.7	982.6	982.8
17.5°	960.4	960.4	960.4	958.9	960.5	961.5
20°	935.7	935.7	936.7	935.1	936.0	935.3
22.5°	909.5	908.6	910.4	907.1	907.2	905.5
25°	880.7	880.7	881.5	880.0	875.0	872.4
27.5°	849.4	849.3	850.3	846.1	841.1	838.5
30°	816.3	816.2	818.0	813.0	802.8	797.8
32.5°	781.5	782.4	783.3	774.0	763.0	758.7
35°	742.4	745.8	745.1	732.4	718.0	715.4
37.5°	703.4	707.8	706.1	688.3	673.1	672.2
40°	660.1	667.9	662.0	640.8	627.2	629.0
42.5°	615.2	624.7	617.1	593.3	582.3	588.2
45°	564.3	579.7	566.1	545.0	539.1	549.2
47.5°	514.3	530.5	515.2	498.3	500.9	510.2
50°	463.3	473.6	465.2	455.1	462.7	472.9
52.5°	413.2	411.7	415.1	413.4	426.3	435.6
55°	364.0	346.3	365.9	374.4	391.4	399.9
57.5°	313.9	294.5	315.8	337.1	358.3	366.0
60°	265.6	250.4	266.5	298.8	323.4	327.7
62.5°	224.1	212.2	225.0	260.7	288.7	293.8
65°	186.7	184.2	187.7	222.5	251.3	259.0
67.5°	157.9	155.4	157.9	189.4	216.5	224.2
70°	130.0	131.6	130.0	157.0	180.8	192.7
72.5°	106.1	110.4	107.0	129.1	146.9	163.9
75°	85.8	90.9	85.8	100.2	118.9	137.5
77.5°	67.9	74.7	67.9	78.1	100.6	125.5
80°	51.9	56.9	51.9	63.9	96.5	124.3
82.5°	36.6	39.1	36.6	64.9	104.2	128.7
85°	29.0	22.2	30.9	76.7	121.8	144.6
87.5°	25.0	6.0	37.9	96.8	148.4	165.3
90°	16.3	1.8	51.5	123.4	176.8	190.3
92.5°	10.4	15.7	74.2	152.6	209.0	223.5
95°	6.3	37.9	98.9	186.4	246.4	253.7
97.5°	12.0	66.6	130.6	221.2	281.3	287.6
100°	31.4	101.7	170.3	256.1	314.3	317.8
102.5°	58.2	139.8	208.3	290.7	350.2	364.7
105°	94.4	183.3	248.2	336.1	386.0	402.4
107.5°	136.0	229.6	288.9	376.9	428.6	437.8
110°	180.5	277.8	329.6	416.7	473.0	484.2



TEST NUMBER: P392596

CATALOG NUMBER: MWL-3-37-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	228.7	327.8	372.3	453.7	520.3	528.7
115°	283.4	374.1	412.1	497.1	558.3	563.0
117.5°	332.4	429.6	452.8	528.7	598.2	599.1
120°	384.2	482.4	493.6	572.2	637.0	644.4
122.5°	437.0	532.4	532.4	609.3	671.2	675.9
125°	486.2	586.2	571.3	637.0	702.8	704.6
127.5°	536.1	640.8	614.0	673.1	733.3	730.5
130°	590.7	692.6	652.9	707.4	762.0	752.8
132.5°	640.8	748.2	692.6	742.6	790.8	796.3
135°	691.7	800.1	727.8	773.1	820.4	818.5
137.5°	739.8	848.2	769.4	797.2	839.9	845.4
140°	787.1	900.1	806.6	828.7	863.9	864.9
142.5°	837.0	952.0	847.2	860.2	890.8	885.2
145°	892.6	1001.1	898.2	891.6	911.1	899.1
147.5°	941.7	1043.7	934.3	914.8	938.0	922.3
150°	996.3	1088.0	984.3	947.2	961.1	953.8
152.5°	1046.4	1122.3	1039.0	972.2	988.0	978.8
155°	1095.5	1158.4	1091.7	997.3	1008.4	1004.8
157.5°	1138.1	1189.9	1131.6	1023.2	1036.2	1028.7
160°	1175.1	1215.8	1177.9	1062.1	1054.6	1054.6
162.5°	1207.5	1240.9	1210.3	1114.9	1075.0	1057.5
165°	1236.3	1260.3	1239.0	1174.1	1113.9	1098.2
167.5°	1263.0	1278.8	1271.5	1222.3	1174.1	1140.8
170°	1284.3	1293.7	1283.5	1263.0	1239.0	1210.3
172.5°	1295.5	1299.2	1305.7	1292.7	1283.5	1264.1
175°	1301.9	1312.1	1306.6	1311.2	1302.9	1298.3
177.5°	1303.8	1305.7	1304.8	1313.1	1317.7	1310.4
180°	1311.2	1311.2	1311.2	1311.2	1311.2	1311.2

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