

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: P392644

Luminaire Tested: **MWL-4-26-33-UNV-L935-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392644  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-4-26-33-UNV-L935-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

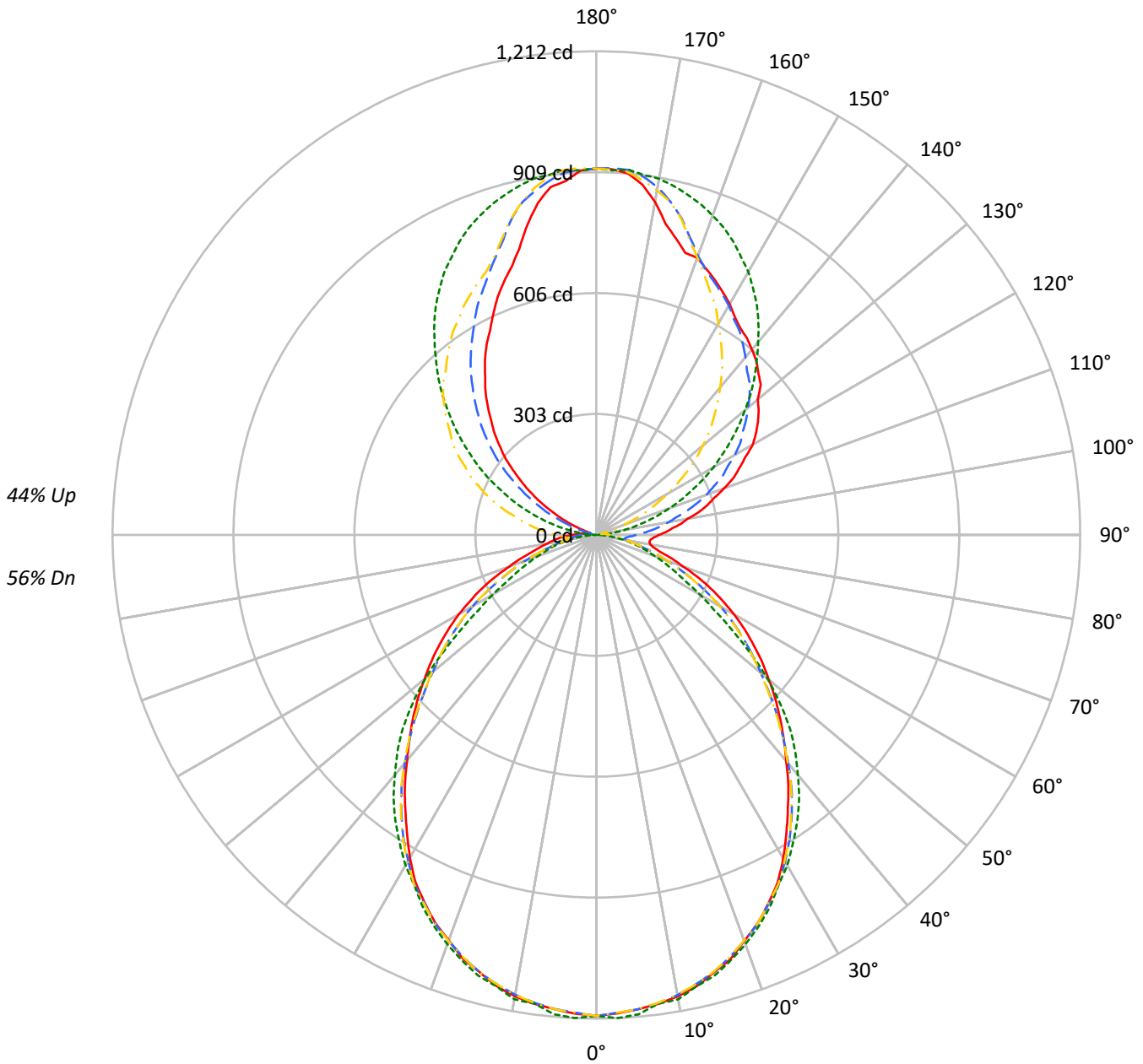
Lumens per Lamp: N/A  
Luminaire Lumens: 5031.6 lumens  
Efficiency: N/A  
Efficacy: 87.4 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: General Diffuse

Input Watts (W): 57.57  
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: P392644  
CATALOG NUMBER: MWL-4-26-33-UNV-L935-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			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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	99	95	91	88	92	88	85	82	76	74	72	65	63	62	55	54	52	48
2	91	83	77	72	84	78	72	68	67	63	60	58	55	52	49	47	45	40
3	83	74	66	61	77	69	62	57	60	55	51	51	48	44	43	41	38	35
4	76	65	58	52	71	61	54	49	53	48	44	46	42	38	39	36	33	30
5	70	58	50	44	65	55	48	42	48	42	38	41	37	34	35	32	29	26
6	65	53	45	39	60	49	42	37	43	37	33	38	33	30	32	29	26	23
7	60	48	40	34	56	45	38	33	39	34	29	34	30	26	29	26	23	21
8	56	43	36	30	52	41	34	29	36	30	26	31	27	24	27	24	21	19
9	52	40	32	27	48	37	31	26	33	27	24	29	24	21	25	22	19	17
10	49	36	29	24	45	34	28	23	31	25	21	27	22	19	23	20	17	15

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	7785	7785	7785	7785
5°	7667	7190	7667	7190
10°	7562	6588	7562	6588
15°	7387	6028	7374	6028
20°	7171	5500	7158	5500
25°	6928	5000	6915	5000
30°	6587	4519	6569	4519
35°	6147	4067	6133	4067
40°	5737	3600	5716	3600
45°	5385	3132	5369	3132
50°	5037	2563	5020	2563
55°	4712	1917	4699	1917
60°	4354	1416	4346	1416
65°	3934	1053	3934	1053
70°	3393	788	3403	788
75°	2979	581	3013	581
80°	3203	372	2918	372
85°	4607	170	3183	170



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.5	2.3
10°-20°	320.3	6.4
20°-30°	470.5	9.4
30°-40°	534.5	10.6
40°-50°	503.6	10.0
50°-60°	401.8	8.0
60°-70°	265.1	5.3
70°-80°	138.6	2.8
80°-90°	75.7	1.5
90°-100°	85.0	1.7
100°-110°	144.9	2.9
110°-120°	244.5	4.9
120°-130°	332.0	6.6
130°-140°	378.5	7.5
140°-150°	377.4	7.5
150°-160°	328.5	6.5
160°-170°	231.1	4.6
170°-180°	86.0	1.7
0°-30°	904.3	18.0
0°-40°	1438.8	28.6
0°-60°	2344.1	46.6
0°-90°	2823.6	56.1
90°-120°	474.5	9.4
90°-150°	1562.4	31.1
90°-180°	2208.0	43.9
0°-180°	5031.6	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1205	1205	1205	1205	1205	
5°	1193	1206	1193	1206	1193	113
15°	1136	1143	1134	1143	1136	320
25°	1020	1029	1018	1029	1020	469
35°	836	877	835	877	836	524
45°	651	686	649	686	651	503
55°	481	413	479	413	481	430
65°	315	217	315	217	315	311
75°	166	110	168	110	166	184
85°	136	29	94	29	136	112
90°	157	2	60	2	157	87
95°	191	27	38	27	191	166
105°	287	128	15	128	287	303
115°	395	263	92	263	395	392
125°	494	411	225	411	494	441
135°	574	561	361	561	574	443
145°	630	701	486	701	630	397
155°	704	811	611	811	704	325
165°	769	883	744	883	769	218
175°	909	919	890	919	909	85
180°	918	918	918	918	918	



TEST NUMBER: P392644

CATALOG NUMBER: MWL-4-26-33-UNV-L935-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1205.4	1205.4	1205.4	1205.4	1205.4	1205.4	1205.4	1205.4	1205.4	1205.4	1205.4
2.5°	1200.2	1198.9	1198.5	1205.1	1211.9	1204.4	1198.5	1198.9	1200.7	1198.9	1198.5
5°	1193.4	1194.7	1193.4	1201.0	1206.1	1201.0	1192.7	1194.7	1193.4	1194.7	1192.7
7.5°	1185.5	1188.5	1183.4	1190.8	1184.9	1190.2	1182.8	1187.9	1185.5	1187.9	1182.8
10°	1174.3	1174.1	1170.7	1178.3	1181.7	1177.7	1170.1	1172.8	1174.3	1172.8	1170.1
12.5°	1158.6	1153.7	1153.1	1158.2	1158.4	1158.2	1153.1	1152.4	1157.3	1152.4	1153.1
15°	1135.6	1138.4	1134.5	1139.5	1143.1	1138.9	1133.8	1137.1	1133.6	1137.1	1133.8
17.5°	1115.2	1114.7	1109.9	1113.4	1118.5	1113.4	1109.2	1114.1	1113.2	1114.1	1109.2
20°	1082.9	1084.8	1082.7	1091.4	1091.6	1090.8	1082.0	1083.5	1081.0	1083.5	1082.0
22.5°	1054.3	1056.0	1055.6	1055.8	1061.9	1055.2	1054.9	1054.7	1053.0	1054.7	1054.9
25°	1019.5	1019.5	1020.6	1030.3	1028.8	1029.7	1019.3	1017.5	1017.5	1017.5	1019.3
27.5°	983.0	981.4	988.3	994.5	988.1	993.8	987.1	979.4	981.1	979.4	987.1
30°	936.4	938.1	944.9	960.3	955.9	959.0	943.0	936.2	933.8	936.2	943.0
32.5°	885.5	892.3	901.6	922.2	916.7	920.9	899.7	889.7	883.0	889.7	899.7
35°	836.5	839.1	853.5	878.1	877.1	876.2	851.6	837.2	834.6	837.2	851.6
37.5°	789.8	785.6	803.4	829.7	834.3	827.9	801.5	783.8	788.0	783.8	801.5
40°	739.9	740.6	748.3	779.9	785.2	778.7	745.7	738.1	737.3	738.1	745.7
42.5°	694.9	686.4	693.4	725.6	737.7	724.4	691.4	683.8	692.3	683.8	691.4
45°	651.0	640.0	640.9	668.8	685.9	667.5	638.2	638.0	649.1	638.0	638.2
47.5°	607.7	594.2	587.4	609.6	624.0	609.0	584.8	592.2	605.8	592.2	584.8
50°	563.6	551.0	537.3	551.1	559.0	549.8	534.7	548.3	561.7	548.3	534.7
52.5°	522.9	508.5	491.8	493.4	485.2	492.2	489.8	505.9	521.0	505.9	489.8
55°	480.7	468.0	446.8	433.4	413.3	432.1	444.8	466.1	479.4	466.1	444.8
57.5°	440.0	430.7	403.5	376.7	349.6	375.3	401.6	428.7	438.7	428.7	401.6
60°	397.9	390.2	358.9	320.0	299.6	319.3	357.5	388.8	397.2	388.8	357.5
62.5°	355.4	349.5	313.1	268.3	252.3	267.6	311.7	348.2	354.7	348.2	311.7
65°	314.9	305.6	268.3	225.8	216.7	225.2	267.6	304.9	314.9	304.9	267.6
67.5°	273.4	262.3	226.7	187.9	186.1	187.9	226.0	261.6	273.4	261.6	226.0
70°	231.1	220.1	188.7	155.7	156.4	155.7	188.7	220.7	231.8	220.7	188.7
72.5°	198.9	180.3	154.8	128.5	132.1	127.9	154.8	180.9	200.3	180.9	154.8
75°	165.8	145.5	121.9	102.4	110.1	102.4	122.5	146.1	167.7	146.1	122.5
77.5°	147.2	121.8	94.8	82.1	87.2	82.1	95.4	119.9	144.7	119.9	95.4
80°	137.0	108.8	75.6	61.8	66.8	61.8	74.2	98.5	124.8	98.5	74.2
82.5°	133.9	107.8	70.6	43.9	46.5	43.9	62.8	84.5	109.3	84.5	62.8
85°	136.2	114.5	75.5	35.7	28.6	34.3	56.8	75.0	94.1	75.0	56.8
87.5°	144.3	127.4	85.0	37.7	7.6	28.6	48.0	65.2	77.6	65.2	48.0
90°	156.8	143.5	101.5	44.5	1.6	19.9	37.4	52.2	59.6	52.2	37.4
92.5°	175.2	164.0	117.8	57.0	11.2	12.3	29.1	44.2	48.1	44.2	29.1
95°	191.0	187.2	139.7	70.8	26.7	6.0	23.1	36.9	37.5	36.9	23.1
97.5°	213.7	209.5	161.4	91.6	46.9	8.6	18.3	31.5	32.3	31.5	18.3
100°	232.0	229.8	183.8	119.3	71.4	22.3	12.2	26.4	28.0	26.4	12.2
102.5°	262.2	251.9	205.3	145.9	97.9	41.0	12.3	18.7	21.3	18.7	12.3
105°	287.3	275.7	236.1	173.8	128.4	66.3	27.0	15.4	14.7	15.4	27.0
107.5°	310.0	301.1	264.7	202.3	160.8	95.4	48.9	26.6	20.0	26.6	48.9
110°	339.9	331.4	292.5	231.6	194.5	127.3	74.2	46.4	36.9	46.4	74.2



TEST NUMBER: P392644

CATALOG NUMBER: MWL-4-26-33-UNV-L935-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	371.0	364.3	318.4	261.4	229.4	160.9	105.4	72.2	63.4	72.2	105.4
115°	394.9	390.9	348.2	289.2	262.7	199.2	139.6	102.7	91.9	102.7	139.6
117.5°	420.2	419.6	370.2	317.7	301.5	233.6	171.4	134.0	121.7	134.0	171.4
120°	452.0	446.8	400.6	346.2	338.5	269.7	206.3	169.0	156.6	169.0	206.3
122.5°	474.0	470.8	427.4	373.5	373.5	306.7	240.8	202.6	189.8	202.6	240.8
125°	494.1	492.7	446.8	400.6	411.0	341.0	278.5	239.6	225.3	239.6	278.5
127.5°	512.2	514.1	472.1	430.4	449.1	376.1	315.3	272.6	257.7	272.6	315.3
130°	527.7	534.2	496.1	457.7	485.5	414.2	348.4	305.6	295.9	305.6	348.4
132.5°	558.2	554.3	520.7	486.3	524.3	450.0	383.4	338.7	327.6	338.7	383.4
135°	573.7	575.0	542.1	510.3	560.6	485.0	416.3	372.3	361.3	372.3	416.3
137.5°	592.5	588.6	558.8	539.4	594.3	518.7	448.7	408.0	390.5	408.0	448.7
140°	606.2	605.5	580.9	565.4	630.5	551.7	481.8	440.3	424.1	440.3	481.8
142.5°	620.4	624.2	602.8	593.8	666.8	586.7	517.4	472.1	456.6	472.1	517.4
145°	630.1	638.5	624.9	629.5	701.1	625.6	548.5	502.5	485.6	502.5	548.5
147.5°	646.2	657.3	641.0	654.7	730.9	659.9	579.6	534.2	519.3	534.2	579.6
150°	668.3	673.5	663.7	689.7	761.3	698.1	611.4	564.7	549.8	564.7	611.4
152.5°	685.7	692.2	681.2	727.9	785.2	733.0	646.2	594.5	576.9	594.5	646.2
155°	704.0	706.5	698.8	764.8	811.4	767.4	674.1	627.5	610.7	627.5	674.1
157.5°	720.7	725.9	716.8	792.7	833.5	797.1	705.9	660.5	645.6	660.5	705.9
160°	738.9	738.9	744.1	825.0	851.6	823.1	739.6	696.8	676.0	696.8	739.6
162.5°	740.8	753.1	780.9	847.7	869.0	845.7	775.7	722.7	704.6	722.7	775.7
165°	769.4	780.3	822.4	867.8	882.7	865.8	820.4	765.4	744.1	765.4	820.4
167.5°	799.1	822.4	856.1	890.4	895.6	884.6	854.8	816.6	797.1	816.6	854.8
170°	846.9	867.0	884.6	898.8	906.0	899.5	876.2	856.5	844.2	856.5	876.2
172.5°	885.0	898.8	905.3	914.3	909.8	907.3	895.6	886.5	879.2	886.5	895.6
175°	909.0	912.4	918.2	915.0	918.9	911.8	912.4	917.0	889.6	917.0	912.4
177.5°	917.4	922.9	919.5	913.7	914.3	913.1	915.7	918.2	913.5	918.2	915.7
180°	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2	918.2



TEST NUMBER: P392644

CATALOG NUMBER: MWL-4-26-33-UNV-L935-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1205.4	1205.4	1205.4	1205.4	1205.4	1205.4
2.5°	1204.4	1211.9	1205.1	1198.5	1198.9	1200.2
5°	1201.0	1206.1	1201.0	1193.4	1194.7	1193.4
7.5°	1190.2	1184.9	1190.8	1183.4	1188.5	1185.5
10°	1177.7	1181.7	1178.3	1170.7	1174.1	1174.3
12.5°	1158.2	1158.4	1158.2	1153.1	1153.7	1158.6
15°	1138.9	1143.1	1139.5	1134.5	1138.4	1135.6
17.5°	1113.4	1118.5	1113.4	1109.9	1114.7	1115.2
20°	1090.8	1091.6	1091.4	1082.7	1084.8	1082.9
22.5°	1055.2	1061.9	1055.8	1055.6	1056.0	1054.3
25°	1029.7	1028.8	1030.3	1020.6	1019.5	1019.5
27.5°	993.8	988.1	994.5	988.3	981.4	983.0
30°	959.0	955.9	960.3	944.9	938.1	936.4
32.5°	920.9	916.7	922.2	901.6	892.3	885.5
35°	876.2	877.1	878.1	853.5	839.1	836.5
37.5°	827.9	834.3	829.7	803.4	785.6	789.8
40°	778.7	785.2	779.9	748.3	740.6	739.9
42.5°	724.4	737.7	725.6	693.4	686.4	694.9
45°	667.5	685.9	668.8	640.9	640.0	651.0
47.5°	609.0	624.0	609.6	587.4	594.2	607.7
50°	549.8	559.0	551.1	537.3	551.0	563.6
52.5°	492.2	485.2	493.4	491.8	508.5	522.9
55°	432.1	413.3	433.4	446.8	468.0	480.7
57.5°	375.3	349.6	376.7	403.5	430.7	440.0
60°	319.3	299.6	320.0	358.9	390.2	397.9
62.5°	267.6	252.3	268.3	313.1	349.5	355.4
65°	225.2	216.7	225.8	268.3	305.6	314.9
67.5°	187.9	186.1	187.9	226.7	262.3	273.4
70°	155.7	156.4	155.7	188.7	220.1	231.1
72.5°	127.9	132.1	128.5	154.8	180.3	198.9
75°	102.4	110.1	102.4	121.9	145.5	165.8
77.5°	82.1	87.2	82.1	94.8	121.8	147.2
80°	61.8	66.8	61.8	75.6	108.8	137.0
82.5°	43.9	46.5	43.9	70.6	107.8	133.9
85°	34.3	28.6	35.7	75.5	114.5	136.2
87.5°	28.6	7.6	37.7	85.0	127.4	144.3
90°	19.9	1.6	44.5	101.5	143.5	156.8
92.5°	12.3	11.2	57.0	117.8	164.0	175.2
95°	6.0	26.7	70.8	139.7	187.2	191.0
97.5°	8.6	46.9	91.6	161.4	209.5	213.7
100°	22.3	71.4	119.3	183.8	229.8	232.0
102.5°	41.0	97.9	145.9	205.3	251.9	262.2
105°	66.3	128.4	173.8	236.1	275.7	287.3
107.5°	95.4	160.8	202.3	264.7	301.1	310.0
110°	127.3	194.5	231.6	292.5	331.4	339.9





TEST NUMBER: P392644

CATALOG NUMBER: MWL-4-26-33-UNV-L935-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	160.9	229.4	261.4	318.4	364.3	371.0
115°	199.2	262.7	289.2	348.2	390.9	394.9
117.5°	233.6	301.5	317.7	370.2	419.6	420.2
120°	269.7	338.5	346.2	400.6	446.8	452.0
122.5°	306.7	373.5	373.5	427.4	470.8	474.0
125°	341.0	411.0	400.6	446.8	492.7	494.1
127.5°	376.1	449.1	430.4	472.1	514.1	512.2
130°	414.2	485.5	457.7	496.1	534.2	527.7
132.5°	450.0	524.3	486.3	520.7	554.3	558.2
135°	485.0	560.6	510.3	542.1	575.0	573.7
137.5°	518.7	594.3	539.4	558.8	588.6	592.5
140°	551.7	630.5	565.4	580.9	605.5	606.2
142.5°	586.7	666.8	593.8	602.8	624.2	620.4
145°	625.6	701.1	629.5	624.9	638.5	630.1
147.5°	659.9	730.9	654.7	641.0	657.3	646.2
150°	698.1	761.3	689.7	663.7	673.5	668.3
152.5°	733.0	785.2	727.9	681.2	692.2	685.7
155°	767.4	811.4	764.8	698.8	706.5	704.0
157.5°	797.1	833.5	792.7	716.8	725.9	720.7
160°	823.1	851.6	825.0	744.1	738.9	738.9
162.5°	845.7	869.0	847.7	780.9	753.1	740.8
165°	865.8	882.7	867.8	822.4	780.3	769.4
167.5°	884.6	895.6	890.4	856.1	822.4	799.1
170°	899.5	906.0	898.8	884.6	867.0	846.9
172.5°	907.3	909.8	914.3	905.3	898.8	885.0
175°	911.8	918.9	915.0	918.2	912.4	909.0
177.5°	913.1	914.3	913.7	919.5	922.9	917.4
180°	918.2	918.2	918.2	918.2	918.2	918.2

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