

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: P392656

Luminaire Tested: **MWL-4-34-25-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392656
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-4-34-25-UNV-L935-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

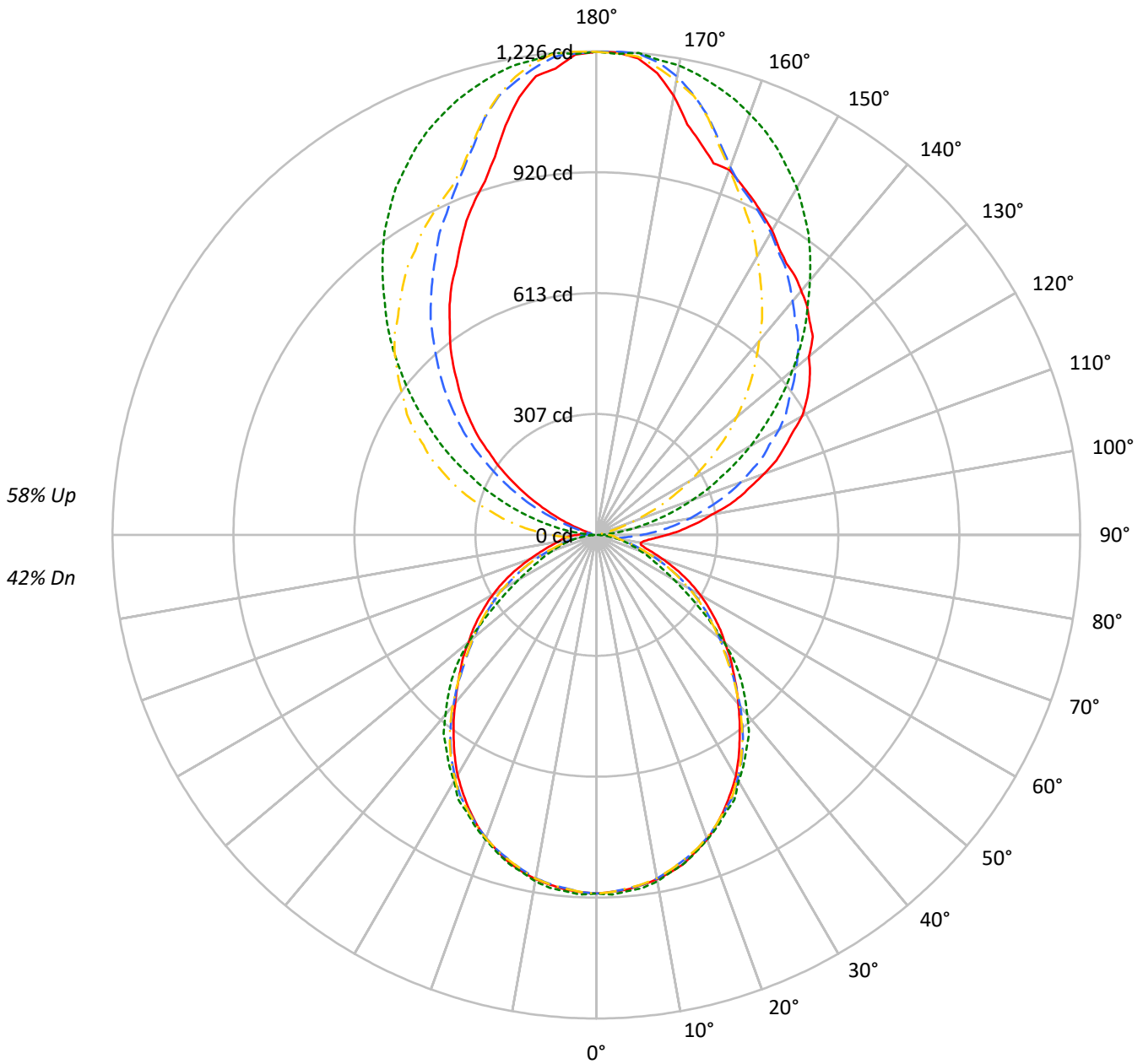
Lumens per Lamp: N/A
Luminaire Lumens: 5075.6 lumens
Efficiency: N/A
Efficacy: 88.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57.671
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: P392656
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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42				
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	36				
2	88	80	74	69	80	74	69	64	61	57	54	49	47	44	38	37	35	30				
3	80	71	64	58	73	65	59	54	54	49	46	44	41	38	34	32	30	26				
4	73	63	55	49	67	58	51	46	48	43	39	39	36	33	31	28	26	22				
5	67	56	48	42	61	52	45	39	43	38	34	35	31	28	28	25	23	20				
6	62	50	42	37	57	46	39	34	39	34	30	32	28	25	25	23	20	17				
7	57	45	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	16				
8	53	41	34	29	49	38	31	27	32	27	23	27	23	20	21	19	16	14				
9	50	38	30	25	45	35	28	24	30	24	21	24	21	18	20	17	15	13				
10	46	35	27	23	42	32	26	21	27	22	19	23	19	16	18	16	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5872	5872	5872	5872
5°	5797	5405	5797	5405
10°	5708	4970	5708	4970
15°	5606	4544	5588	4544
20°	5436	4141	5419	4141
25°	5217	3771	5199	3771
30°	4970	3408	4946	3408
35°	4649	3072	4631	3072
40°	4340	2725	4314	2725
45°	4055	2367	4034	2367
50°	3799	1936	3775	1936
55°	3575	1455	3558	1455
60°	3313	1079	3305	1079
65°	3009	800	3009	800
70°	2615	598	2629	598
75°	2302	438	2347	438
80°	2668	284	2284	284
85°	4550	126	2649	126



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.7	1.7
10°-20°	241.8	4.8
20°-30°	355.2	7.0
30°-40°	403.7	8.0
40°-50°	380.0	7.5
50°-60°	304.8	6.0
60°-70°	202.6	4.0
70°-80°	106.5	2.1
80°-90°	67.6	1.3
90°-100°	100.8	2.0
100°-110°	190.7	3.8
110°-120°	325.5	6.4
120°-130°	442.3	8.7
130°-140°	504.4	9.9
140°-150°	503.1	9.9
150°-160°	438.0	8.6
160°-170°	308.2	6.1
170°-180°	114.8	2.3
0°-30°	682.7	13.5
0°-40°	1086.5	21.4
0°-60°	1771.2	34.9
0°-90°	2147.9	42.3
90°-120°	617.0	12.2
90°-150°	2066.7	40.7
90°-180°	2928.0	57.7
0°-180°	5075.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	909	909	909	909	909	
5°	902	907	902	907	902	86
15°	862	862	859	862	862	242
25°	768	776	765	776	768	353
35°	633	662	630	662	633	396
45°	490	518	488	518	490	379
55°	365	314	363	314	365	326
65°	241	165	241	165	241	238
75°	128	83	131	83	128	143
85°	134	21	78	21	134	106
90°	178	1	48	1	178	98
95°	235	36	30	36	235	205
105°	378	171	14	171	378	397
115°	526	350	121	350	526	522
125°	658	548	299	548	658	588
135°	764	748	481	748	764	590
145°	840	936	647	936	840	530
155°	938	1082	814	1082	938	433
165°	1026	1177	992	1177	1026	291
175°	1213	1226	1187	1226	1213	113
180°	1225	1225	1225	1225	1225	



TEST NUMBER: P392656

CATALOG NUMBER: MWL-4-34-25-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	909.2	909.2	909.2	909.2	909.2	909.2	909.2	909.2	909.2	909.2	909.2
2.5°	905.8	905.8	905.9	916.1	912.6	915.2	905.9	905.8	906.6	905.8	905.9
5°	902.3	902.3	899.9	907.5	906.6	907.5	899.0	902.3	902.3	902.3	899.0
7.5°	894.7	894.7	893.9	899.9	902.4	899.0	893.0	893.9	894.7	893.9	893.0
10°	886.3	886.3	884.6	889.6	891.4	888.8	883.7	884.6	886.3	884.6	883.7
12.5°	875.3	877.0	869.3	874.4	875.2	874.4	869.3	875.2	873.5	875.2	869.3
15°	861.8	856.6	854.0	861.7	861.7	860.8	853.1	854.9	859.1	854.9	853.1
17.5°	840.6	841.3	837.9	842.2	842.2	842.2	837.1	840.5	837.9	840.5	837.1
20°	821.0	820.2	818.4	822.7	821.8	821.8	817.6	818.4	818.4	818.4	817.6
22.5°	795.6	798.2	795.5	798.9	800.6	798.1	794.6	796.4	793.8	796.4	794.6
25°	767.6	768.5	770.9	776.0	776.0	775.1	769.2	765.8	765.0	765.8	769.2
27.5°	737.1	740.5	748.0	754.8	757.4	754.0	746.3	737.9	734.5	737.9	746.3
30°	706.5	706.5	715.9	722.6	720.9	720.9	713.3	704.0	703.1	704.0	713.3
32.5°	670.9	670.9	683.7	695.4	693.8	693.8	681.0	667.5	667.5	667.5	681.0
35°	632.7	635.3	647.1	664.1	662.4	661.5	644.6	632.7	630.2	632.7	644.6
37.5°	596.3	594.5	608.1	627.6	635.3	625.1	605.6	592.0	593.7	592.0	605.6
40°	559.8	556.4	566.6	588.6	594.5	586.9	563.1	552.9	556.4	552.9	563.1
42.5°	525.0	519.0	524.1	547.1	556.4	545.4	521.6	515.7	521.6	515.7	521.6
45°	490.2	483.5	481.8	506.3	518.3	504.6	478.3	480.9	487.7	480.9	478.3
47.5°	459.7	450.3	443.6	458.9	474.2	458.0	440.1	447.8	457.2	447.8	440.1
50°	425.0	417.3	408.0	414.8	422.4	413.1	404.5	413.8	422.4	413.8	404.5
52.5°	396.1	386.8	373.2	374.1	367.3	372.3	370.6	383.3	393.6	383.3	370.6
55°	364.7	356.2	340.2	330.0	313.8	328.2	337.5	353.6	363.0	353.6	337.5
57.5°	334.2	328.2	307.1	286.7	266.4	284.9	304.4	325.7	332.5	325.7	304.4
60°	302.8	296.9	273.1	240.9	228.2	240.0	271.4	295.1	302.0	295.1	271.4
62.5°	272.3	268.0	240.1	203.6	191.7	202.7	238.3	266.3	271.5	266.3	238.3
65°	240.9	234.1	207.9	170.5	164.6	169.6	206.9	233.2	240.9	233.2	206.9
67.5°	208.7	201.9	175.6	143.3	142.5	143.3	174.7	201.0	208.7	201.0	174.7
70°	178.1	167.9	144.2	118.7	118.7	118.7	144.2	168.9	179.1	168.9	144.2
72.5°	150.9	138.2	117.9	98.4	100.9	97.5	117.9	139.2	152.7	139.2	117.9
75°	128.1	111.9	93.3	78.9	83.1	78.9	94.1	112.9	130.6	112.9	94.1
77.5°	115.5	95.1	72.9	61.9	67.0	61.9	73.8	92.5	112.0	92.5	73.8
80°	114.1	91.0	59.5	46.7	50.9	46.7	57.6	77.2	97.7	77.2	57.6
82.5°	121.2	97.3	59.6	33.0	35.6	33.0	49.3	66.3	88.4	66.3	49.3
85°	134.5	113.1	71.1	28.9	21.2	27.1	46.0	60.4	78.3	60.4	46.0
87.5°	153.9	137.5	89.3	36.0	6.8	23.8	40.0	54.5	64.7	54.5	40.0
90°	178.2	163.6	115.5	49.0	0.9	16.1	29.8	41.7	48.4	41.7	29.8
92.5°	207.8	194.8	142.3	69.9	14.7	10.2	23.8	34.9	38.2	34.9	23.8
95°	234.7	228.7	174.4	93.4	35.5	6.9	18.7	28.0	29.8	28.0	18.7
97.5°	266.9	263.4	207.4	121.9	62.2	11.2	16.2	25.5	24.7	25.5	16.2
100°	296.4	294.6	241.2	159.2	95.2	29.4	12.0	23.0	23.9	23.0	12.0
102.5°	340.6	328.5	272.5	194.6	130.6	54.4	14.7	17.2	18.8	17.2	14.7
105°	377.9	364.1	313.9	231.8	171.2	88.2	34.6	16.3	13.6	16.3	34.6
107.5°	410.7	400.5	352.0	269.8	214.4	127.1	64.0	33.7	23.3	33.7	64.0
110°	452.3	442.0	389.3	307.9	259.5	168.7	97.7	61.4	47.5	61.4	97.7



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CATALOG NUMBER: MWL-4-34-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	493.8	486.1	423.9	347.7	306.2	213.7	139.3	96.0	83.0	96.0	139.3
115°	525.9	521.5	464.4	384.9	349.5	264.7	186.0	136.6	121.1	136.6	186.0
117.5°	559.6	558.7	493.8	423.8	401.3	311.4	228.3	177.3	160.8	177.3	228.3
120°	602.0	595.1	534.5	461.8	451.5	359.8	275.0	223.9	207.6	223.9	275.0
122.5°	631.4	627.0	569.1	498.2	498.2	409.1	320.0	269.0	251.7	269.0	320.0
125°	658.2	656.4	595.1	534.5	548.3	454.9	370.2	318.2	299.3	318.2	370.2
127.5°	682.4	685.1	628.8	574.3	599.4	501.6	419.5	362.3	342.5	362.3	419.5
130°	703.2	711.8	660.8	610.7	647.8	552.7	463.6	406.5	393.6	406.5	463.6
132.5°	743.8	738.6	693.7	647.8	699.7	599.4	510.2	450.6	435.9	450.6	510.2
135°	764.5	766.3	722.2	679.9	748.1	646.1	554.4	495.6	480.9	495.6	554.4
137.5°	789.6	784.5	744.7	718.8	793.2	691.0	597.6	543.1	519.8	543.1	597.6
140°	807.8	807.0	774.0	753.4	841.6	735.1	641.7	586.4	564.8	586.4	641.7
142.5°	826.9	832.9	803.4	791.4	890.0	781.9	689.4	629.7	608.0	629.7	689.4
145°	839.9	851.1	832.9	838.9	935.9	833.7	730.8	669.4	646.9	669.4	730.8
147.5°	861.5	876.2	854.5	872.7	975.6	879.6	772.4	711.8	691.9	711.8	772.4
150°	890.9	897.8	884.8	919.4	1016.2	930.7	814.8	752.4	732.6	752.4	814.8
152.5°	914.2	922.9	908.1	970.4	1048.3	977.3	861.5	792.3	768.9	792.3	861.5
155°	938.4	941.9	931.5	1019.7	1082.1	1023.2	898.6	836.4	813.9	836.4	898.6
157.5°	960.9	967.8	955.7	1057.0	1111.4	1063.0	941.0	880.5	860.6	880.5	941.0
160°	985.1	985.1	992.1	1100.2	1135.7	1097.6	985.9	928.9	901.3	928.9	985.9
162.5°	987.8	1004.2	1041.3	1130.5	1159.0	1127.8	1034.4	963.5	939.4	963.5	1034.4
165°	1025.8	1040.5	1096.7	1157.2	1177.2	1154.6	1094.1	1020.6	992.1	1020.6	1094.1
167.5°	1065.6	1096.7	1141.7	1187.5	1194.5	1179.8	1140.0	1088.9	1063.0	1088.9	1140.0
170°	1130.5	1157.2	1179.8	1198.8	1208.3	1199.7	1168.5	1143.4	1127.0	1143.4	1168.5
172.5°	1180.7	1198.8	1207.5	1219.5	1214.4	1210.0	1194.5	1182.3	1172.9	1182.3	1194.5
175°	1212.6	1216.9	1224.8	1220.5	1226.4	1216.1	1216.9	1223.0	1186.7	1223.0	1216.9
177.5°	1223.9	1230.8	1226.4	1218.7	1220.4	1217.8	1221.3	1224.8	1218.7	1224.8	1221.3
180°	1224.8	1224.8	1224.8	1224.8	1224.8	1224.8	1224.8	1224.8	1224.8	1224.8	1224.8



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CATALOG NUMBER: MWL-4-34-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	909.2	909.2	909.2	909.2	909.2	909.2
2.5°	915.2	912.6	916.1	905.9	905.8	905.8
5°	907.5	906.6	907.5	899.9	902.3	902.3
7.5°	899.0	902.4	899.9	893.9	894.7	894.7
10°	888.8	891.4	889.6	884.6	886.3	886.3
12.5°	874.4	875.2	874.4	869.3	877.0	875.3
15°	860.8	861.7	861.7	854.0	856.6	861.8
17.5°	842.2	842.2	842.2	837.9	841.3	840.6
20°	821.8	821.8	822.7	818.4	820.2	821.0
22.5°	798.1	800.6	798.9	795.5	798.2	795.6
25°	775.1	776.0	776.0	770.9	768.5	767.6
27.5°	754.0	757.4	754.8	748.0	740.5	737.1
30°	720.9	720.9	722.6	715.9	706.5	706.5
32.5°	693.8	693.8	695.4	683.7	670.9	670.9
35°	661.5	662.4	664.1	647.1	635.3	632.7
37.5°	625.1	635.3	627.6	608.1	594.5	596.3
40°	586.9	594.5	588.6	566.6	556.4	559.8
42.5°	545.4	556.4	547.1	524.1	519.0	525.0
45°	504.6	518.3	506.3	481.8	483.5	490.2
47.5°	458.0	474.2	458.9	443.6	450.3	459.7
50°	413.1	422.4	414.8	408.0	417.3	425.0
52.5°	372.3	367.3	374.1	373.2	386.8	396.1
55°	328.2	313.8	330.0	340.2	356.2	364.7
57.5°	284.9	266.4	286.7	307.1	328.2	334.2
60°	240.0	228.2	240.9	273.1	296.9	302.8
62.5°	202.7	191.7	203.6	240.1	268.0	272.3
65°	169.6	164.6	170.5	207.9	234.1	240.9
67.5°	143.3	142.5	143.3	175.6	201.9	208.7
70°	118.7	118.7	118.7	144.2	167.9	178.1
72.5°	97.5	100.9	98.4	117.9	138.2	150.9
75°	78.9	83.1	78.9	93.3	111.9	128.1
77.5°	61.9	67.0	61.9	72.9	95.1	115.5
80°	46.7	50.9	46.7	59.5	91.0	114.1
82.5°	33.0	35.6	33.0	59.6	97.3	121.2
85°	27.1	21.2	28.9	71.1	113.1	134.5
87.5°	23.8	6.8	36.0	89.3	137.5	153.9
90°	16.1	0.9	49.0	115.5	163.6	178.2
92.5°	10.2	14.7	69.9	142.3	194.8	207.8
95°	6.9	35.5	93.4	174.4	228.7	234.7
97.5°	11.2	62.2	121.9	207.4	263.4	266.9
100°	29.4	95.2	159.2	241.2	294.6	296.4
102.5°	54.4	130.6	194.6	272.5	328.5	340.6
105°	88.2	171.2	231.8	313.9	364.1	377.9
107.5°	127.1	214.4	269.8	352.0	400.5	410.7
110°	168.7	259.5	307.9	389.3	442.0	452.3



TEST NUMBER: P392656

CATALOG NUMBER: MWL-4-34-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	213.7	306.2	347.7	423.9	486.1	493.8
115°	264.7	349.5	384.9	464.4	521.5	525.9
117.5°	311.4	401.3	423.8	493.8	558.7	559.6
120°	359.8	451.5	461.8	534.5	595.1	602.0
122.5°	409.1	498.2	498.2	569.1	627.0	631.4
125°	454.9	548.3	534.5	595.1	656.4	658.2
127.5°	501.6	599.4	574.3	628.8	685.1	682.4
130°	552.7	647.8	610.7	660.8	711.8	703.2
132.5°	599.4	699.7	647.8	693.7	738.6	743.8
135°	646.1	748.1	679.9	722.2	766.3	764.5
137.5°	691.0	793.2	718.8	744.7	784.5	789.6
140°	735.1	841.6	753.4	774.0	807.0	807.8
142.5°	781.9	890.0	791.4	803.4	832.9	826.9
145°	833.7	935.9	838.9	832.9	851.1	839.9
147.5°	879.6	975.6	872.7	854.5	876.2	861.5
150°	930.7	1016.2	919.4	884.8	897.8	890.9
152.5°	977.3	1048.3	970.4	908.1	922.9	914.2
155°	1023.2	1082.1	1019.7	931.5	941.9	938.4
157.5°	1063.0	1111.4	1057.0	955.7	967.8	960.9
160°	1097.6	1135.7	1100.2	992.1	985.1	985.1
162.5°	1127.8	1159.0	1130.5	1041.3	1004.2	987.8
165°	1154.6	1177.2	1157.2	1096.7	1040.5	1025.8
167.5°	1179.8	1194.5	1187.5	1141.7	1096.7	1065.6
170°	1199.7	1208.3	1198.8	1179.8	1157.2	1130.5
172.5°	1210.0	1214.4	1219.5	1207.5	1198.8	1180.7
175°	1216.1	1226.4	1220.5	1224.8	1216.9	1212.6
177.5°	1217.8	1220.4	1218.7	1226.4	1230.8	1223.9
180°	1224.8	1224.8	1224.8	1224.8	1224.8	1224.8

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